PART B PERMIT APPLICATION

FEBRUARY 1991 REVISION NO. 1

> VOLUME II APPENDIX A

Prepared for

GNB Incorporated VERNON, CALIFORNIA

Prepared By

LAKE ENGINEERING, INC. 6000 Lake Forrest Drive Suite 350 Atlanta, Georgia 30328

490.4



APPENDIX A

DRAWINGS

(In Order Of Reference In Text)

39-724-100

39-724-101

DC-104

Property Survey

Flood Map Index

Flood Map Panel 065043 0935B

39-615-301

39-615-306

39-615-302

39-615-307

39-615-304

DM-001

DM-127

DM-128

DM-130

DM-5666-1

DM-5666-2

DM-5666-3

39-754-401

DM-005

A13

PART B PERMIT APPLICATION

FEBRUARY 1991 REVISION NO. 1

VOLUME III APPENDICES B THROUGH I

Prepared for

GNB Incorporated VERNON, CALIFORNIA

Prepared By

LAKE ENGINEERING, INC. 6000 Lake Forrest Drive Suite 350 Atlanta, Georgia 30328

490.4



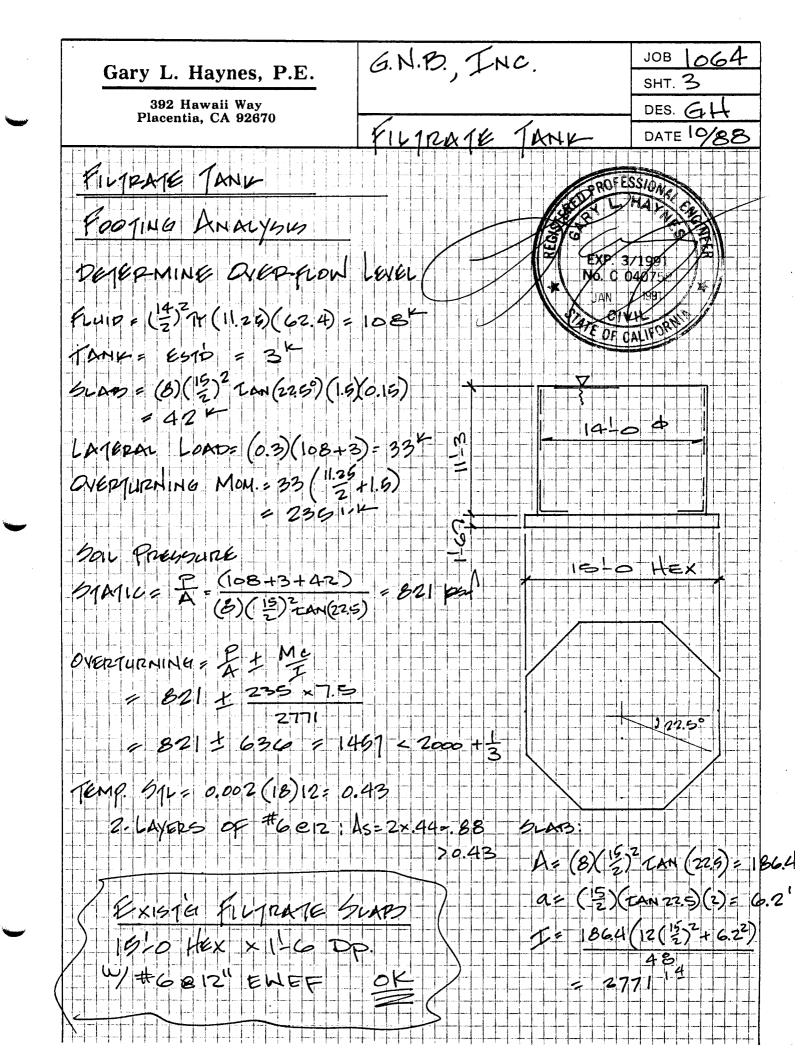
APPENDIX B

RE: SECTION 6

ENGINEERING REPORT

G.N.B., INC. JOB 1064 Gary L. Haynes, P.E. SHT. 1 2 14 VERNON, CA 392 Hawaii Way DES. GH Placentia, CA 92670 D.Q.H. ANALYSIS DATE 10/22 THE FOLLOWING ANALYSIS 19 TO CEPTIFY THE THE DESIGN DRAWINGS, SPECIFICATIONS, CERTAIN TECHNICAL DATA, AND ENGINGERING GIUDIES OF THE ADEAS DEFINED PSELOW PERTAINE TO THE GNP, INC FACILITY IN VERNOH, CA, CONFORM TO ENGINEERING PRINCIPLES THAT COMPLY WITH APPLICABLE CODES AND STATUTES OF THE STATE OF CALIFORNIA AND PLIES OF THE DEPT. OF HEALTH DEPVICES. THE ANDLYMS COVERS THE FOLLOWING DREAS: THE 14 & X 113 FILTRATE TANK ANCHORAGE AND FOUNDATION. THE 18'4' × 22' ACID MUD TANKS (2-INTERIOR THE DEGIGN OF THE TWO LEAD GLUPPY SUMPS, THE AZID, GURBE GUMP, AND THE RMPS FLOOP SHMP. ALSO, INCLUDED IS AN ANALYSIS OF THE EXISTE CONTAINMENT DESIGN AND DETENTION PONT CAPACIT

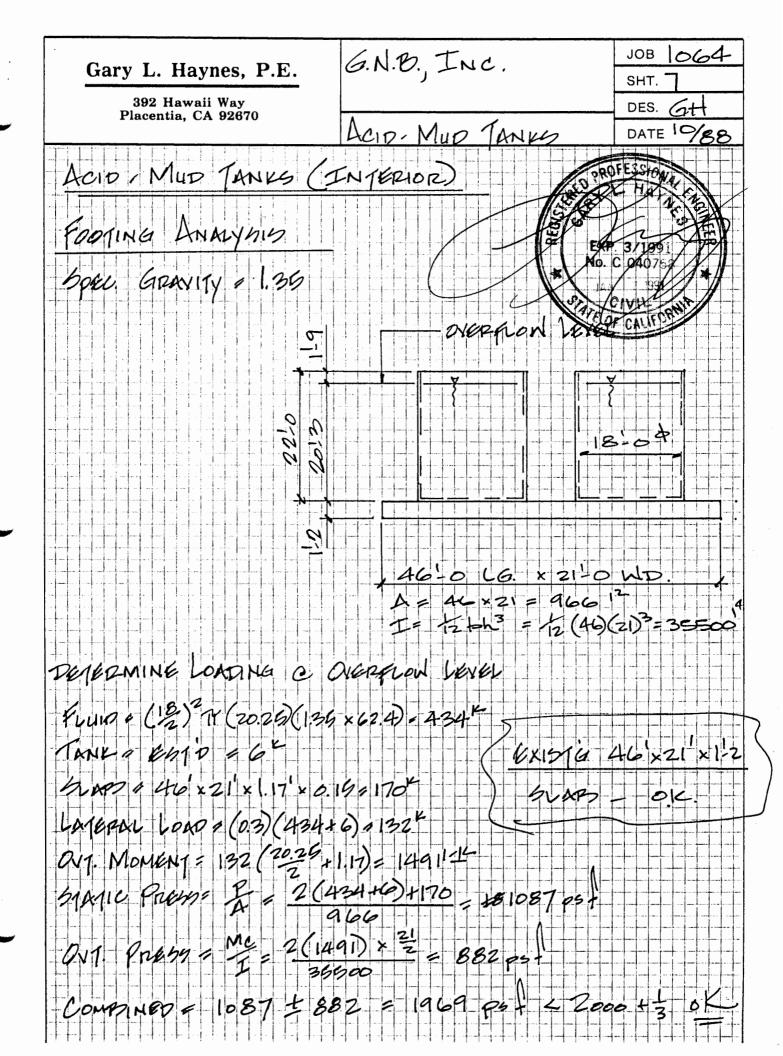
Gary L. Haynes, P.E.	G.N.B., INC	JOB 1064
392 Hawaii Way Placentia, CA 92670		SHT. Z DES. GH
	DESIGN PASIS.	DATE 10/88
DEMIGN PANIS:	- CAOFI	SEION A
PER DWG. DC. 021	EXP.	3/199
CONCRETE - fe = 6	1000 psi	
ANCHOR POUTS - FY	00000 psi. 36 KSIM. A	36
FIELD DRILLED ANCHO	pres - "HILTI", KNIK-BO	US OF EQU
AUD MUD TANKS; E	pec. Gran114 = 1,36	
ACID FILTRATE TANK;	Spec. apavity = 1.00	
	per U.B.C., 1988 en	2
	s Psy Inapection:	
= (0.4)(1.0)(0.75 = (0.30) W		1, TAP. 23-I
1 (0.30) W	Cp=0.75 (TAB.	+, TAB. 23-I, 23.L) 23.P, II-4

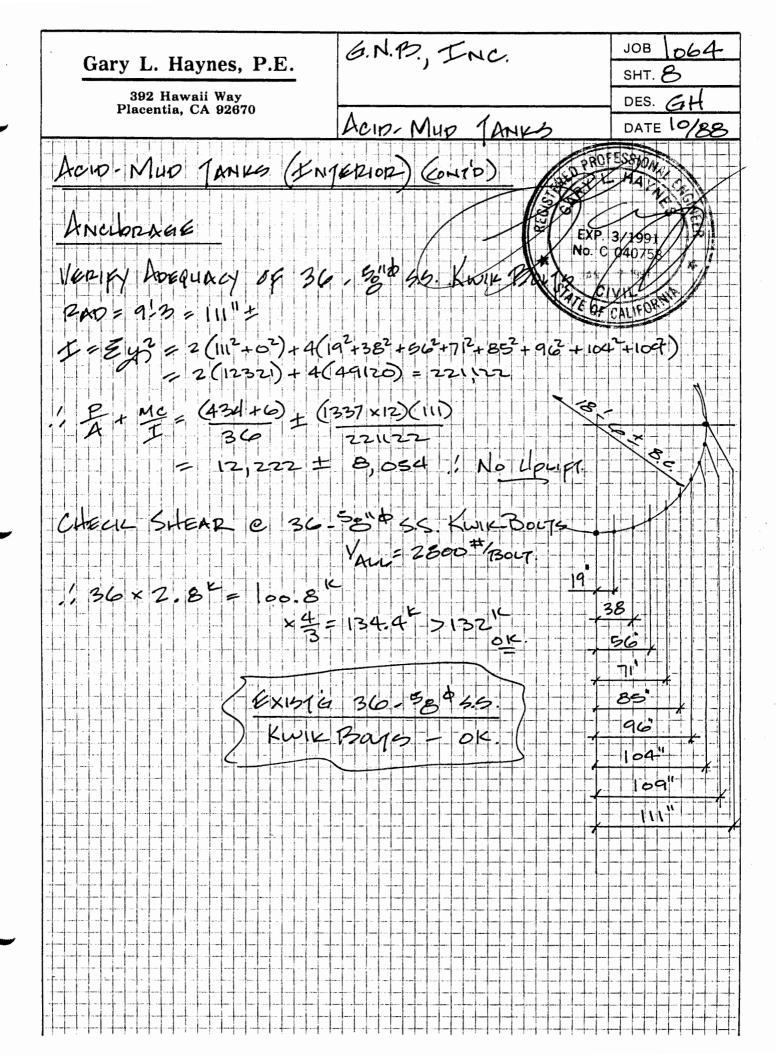


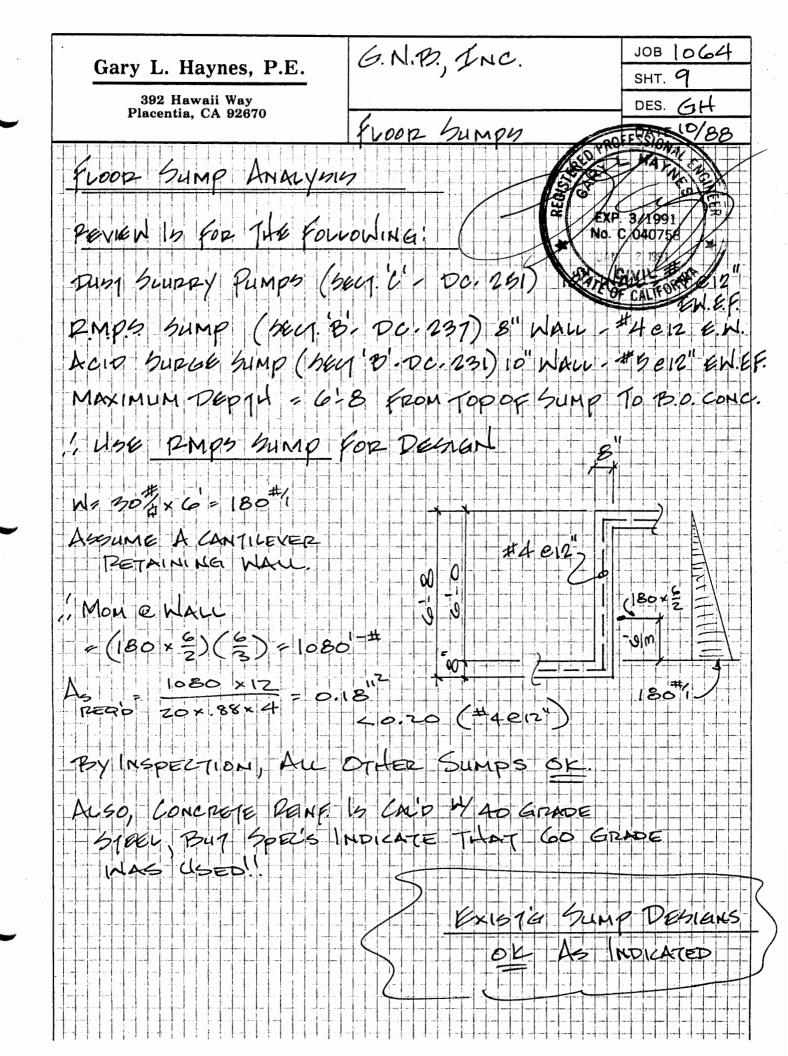
Gary L. Haynes, P.E.	G.N.B., INC. JOB 1064
392 Hawaii Way	SHT. 24
Placentia, CA 92670	DES. GH
	FILTRATE TANK DATE 19/88
FILTRATE TANK (co	NTD) OROFESSION
	The state of the s
ANCHORAGE	
	EXP 3/1991
SHECK UPLIFT FORCES.	No C 040/58
QVT. MOM (TANK ONLY)	may a first from the first from the first of the first from the fi
(TANK ONLY)	CALLY
FOR 14 & TANK; I	$= \frac{\pi R^4}{4} = \frac{\pi (\frac{14}{2})^4}{4} = 1886$
	_ 1
	= 12= 14 (14)= 154
/, F + MC = (108+ 154	3) + (186)(14)
1 1 1 154	1886
	PST + 690 PST , ND UPCIFT
	PST - GTO PST / IND GPC(F)
CHECK 12-34" A.B.	out (Vau=30/Bour)
FOR SHEAR	ONLY ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
11012000	
1,12 ×30 = 364	= 48K > 33K TANK SHEAR
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	= 48 / 23 1 KME SHERK
	12-34" A POUTES OK.
!- -}- - - - - - - - - - - - - - - - - -	
	▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗▗

Gary L. Haynes, P.E.	6.N.B., IN	JOB LOG4 SHT. 5 DES. GH DATE (0/88)		
392 Hawaii Way Placentia, CA 92670	AUD. MUD			
ACID - MUD TANK (E		OROFES	STONE TO THE	
F0011NG ANALYSIS		A The second second		
Spec. GRAVITY = 1.35		EXP. 3/ No. E 0	1991	
ELEPMINE LONDING E OVE	rhow texet	CIX	TORNI	
LUID= (18)2 (20.26) (1.36 × 62	4)=434		Ceve	5
ANK = 8510=6K	W- 0			
APP = 24 × 24 × 1.17 × 0.16.		18-0	4	
V1. Mom + 132 (20.25 + 1.17) = 1				
1211c PRESS = Q = (434+6))+101			
# 939 # 939	PS.T.	24-0 €	φ.	
017. Press , Mc (1491)	(324)	1 1 1 1 1 1 1 1 1	$A = 576$ $(24)^3 = 276$	48
# 276 # 647	P5 1			
(, COMP) = 939 ± 64	7= 1986 ps	L 2000 +	\$ ok.	
THECK TEMPERATURE ST				
As = 0.002 (14)(12) = 0.34"2			
5LAB 516 #4 e12	TOP \$ ROTT = (2×0.20)=0	40 > 134	_U 2
	SILEX	519 24 ×	24 × 1-2	
	119	1744e12	Top & 130	>77
				$\pm \parallel$

Gary L. Haynes, P.E.	6. N.B., INC. JOB 1064
392 Hawaii Way	SHI. G
Placentia, CA 92670	DES. GH
	ACID- MUD TANKS DATE 10/88
ACID- MUD JANK (EX	TEPLOR) (CONTO)
	SROFESION
ANCHORAGE	
	1 1 1 d A R
VERIFY ADEQUACY OF 1	EXP 8/1991
OVT MOM. (TANKONLY) = 132	(2023) = (337)
PAD = 9-3 + = 111"	OF CALFORNIA
I = 7/2 = 2 (11/2 + 02)	+ 4 (567+9624)
$T_{p,c} = Zy^2 = 2(11)^2 + 0^2) - 2(1232) + 4$	2 (10220) = 74 - 60
(P + MC = (434+6) + (133	37 x12)(111) 74050
A 1 2 12 1	74050
= 36667 ± 24	toso ! No Upiet
CHECK SHEAR DNIVE 12	1 1 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Charle Didy E 12	
	VAN # 6.0 BOLT. 54
1, 12 × 6.0 = 72 K	1 ato
14 14 14	96K 2 132K
	EXISTE BOUTS IN ADEQUATE
ADDITIONAL SHEAR REG	D=132-96=36K
FOR THE ADDITION OF	12-34 05.5. KWK BOLTS
	YALL 2880 BOT.
16,000	
, STERR = 12 × 2880	7 34,66 K
	3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	20 12-34" & 4.6. LWK BOLTS
<u> </u>	0 THE EXISTING 12-12 & ABOTG (







Come I Houses D.F.	G. N.B. INC	JOB 1064	
Gary L. Haynes, P.E.		SHT. ID	
392 Hawaii Way Placentia, CA 92670		DES. GH	
	CONTAINMENT DESIGN	DATE 19/88	
VERIEY CONTAINMENT I	25160	E R S (C	
		HA	
DUE TO THE EXISTING TO CONTAINMENT AREA N	ESIGN THE		
CONTAINMENT AREA IN	1451 PE TESTER EX	3/199/	
TO HOLD THE PUN-	A PROM THE NO.	C 0407	
ENTIRE PROPERTY		CIVIL	
THEREFORE, PEZ SECT. CONTAINMENT SYSTE PUN. ON FROM A 2	22-67245 (6) (4)	OF DALIFOR	
CONTAINMENT SYSTE	M MUST HOLD		
EUN ON FROM A 22	4 25 ye. 7 Coeb.		
INITIAL TRESIGN USED	6 OF PUNDON.		
PROPERTY AREA 15 ASF	Parans:		
247 × 69- 5 0-4730			
347 × 590 = 204730 912 × 445 = 405840			
610,570 sq.F			
) James and a second		
× 6.0 × 7.48 94.			
= 2.28 mg.	1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1	3 11 1	
		1019 AVIIAN	
		910 100 100 100 100 100 100 100 100 100	
		1 4	
		3	
Carrier Control Contro	and the second of the second o		
	90 445		
	POANDINI ST.		

Gary L. Haynes, P.E.	G.N.B., INC.	JOB 1064 SHT. [[
392 Hawaii Way Placentia, CA 92670		DES. GH
·	CONTAINMENT DESIGN	DATE 10/88
CONTAINMENT DESIGN	(CONTO) 000	E89
PEZ CODE, THE CONTAI	HMENT SYSTEM OF	
MUST HOLD THE 24th	OF THE VOLUME NO C	3/1961 0407/8
OF THE TANKS.	SX C	
THEREFORE CAPACITY PE	ap (use Acip Mus)	(4)
= 2,283,500 GALLON	0 (3)(4(880)	
RETENTION POND CAPACI	<u> </u>	
DWGS STOW TOP OF	Top or Pan	o Sides, El 168
WATER LEVEL TO THE 167-	PINA	LOPED SIDES
OF FREE PEARP @ PONO.	128 00 26	
347, DURING THE		POND EL 154
APPOYE CONDITION (24 42- 25 X2 FLOOD)		
THE LEVEL CAN IN		42 70
168-0 (TOP OF POND)		
BACKFILL THE EXISTA	28 218	28
DRAIN PIPED, BUT	274	
PRINTS APPOUT THE		
Wello STILL POE LONG	MARED	
THE EXCESS COULD T	LINES UNTIL	
THE AN-SITE TREA	MENT PLANT	
┍ ┪┈┟╼┧┈╏╼╄┈╏╼╄╴╏╼╇╴╏╼╄╾╏┈╏╼┞╸╏╼╄╸╏╼╄╸		

Gary L. Haynes, P.E.	G.N.B., INC.	JOB 1064 SHT. 12
392 Hawaii Way Placentia, CA 92670		DES. GH
Tuesdani, ST 52070	CONTAINMENT DESIGN	DATE 10/88
CONTAINMENT DEDIGO	4 (LONTD)	1880
POND CAPACITY CALC.	EXI	3/199/
ASSUME TOP OF WATER		6 0407
MID. (218-88) × 45 = 88 × 95 =	5850 s.1.	A CASO
	14210 s.f. x 13.33	= 189,420
51085 130 + 88 = 218 f		
95 = 95 45 = 45		
130-28 : 102		
5201	1 × 28 ft × 13.33 × 2	- 106370
CARNESS: 1/0 × 28 × 28	× 13.33 × 5pcc	f 17420
73 × 28 × 28		6970
		- 320,180
Liquio Vol = 320 (80)		
Liquio Vol = 320 1803.	00 GAL. > 2,296,	
FURTHER INVESTIGATION SI	Loves POND TO	OK.
FURTHER INVESTIGATION ST HAVE AFTER 4"+ FREE THIS RUN-ON LOAD.	E ESOARED WITH	
	CONTAININEN OK. FOR	T SYSTEM
	9K. 130	EDADING

Gary L. Haynes, P.E.

392 Hawaii Way Placentia, CA 92670 G.N.B, INC.

JOB 1064

SHT. 13

DES. GH

ANALYSIS PECAP

DATE 19/88

In conclusion, several systems are used in the Preparation System (RMPS) Area treatment of waster

These systems are as follows:

- An Acid Tank and Battery Dump Bin Sump
- A Muds Tank System

No. 0 04075

The acid tank is 14 feet in diameter and 11 feet him week sheet 3 on the calculations). The tank is constructed of wound first glass reinforced polyester (FRP) with no joints. The tank rests directly on a reinforced concrete foundation. From the acid tank, waste acid is pumped into the muds holding tank system for treatment. The tank is located outside of the RMPS building near the furnace emission control baghouses. The containment system for this tanks consists of a sloped concrete pavement that directs any spillage to a collection sump. Any leakage or spillage would then flow from the collection sump to the on-site waste acid collection pond and then be pumped into the treatment system for treatment.

Waste acid is collected in the battery dump bin sump from the oscillating pan feeder system where spent lead-acid batteries are received. The collected acid is pumped to a clarifier, then to an acid tank. The sump is constructed of reinforced concrete (see sheet 9 of the calculations) and is also equipped with a stainless steel liner.

The muds holding tank system consists of three tanks 18 feet in diameter and 22 feet high (one tank is located just outside of the RMPS building, see sheet 5 of the calculations; and two tanks are located within the RMPS building, see sheet 7 of the calculations) All of the muds holding tanks are used primarily to treat waste acid. The tanks are constructed of wound fiberglass reinforced polyester (FRP) with no joints. The area around the holding tanks is equipped with a stainless steel lined floor trench which collects leakage or spillage. Any flow in this trench is routed to the RMPS floor sump and then pumped back into the muds holding tank. The floor sump is constructed of reinforced concrete (see sheet 9 of the calculations) and is also equipped with a stainless steel liner.

The baghouse dust slurry sumps are located to the east of the waste acid containment tank. The slurry from the sumps is pumped periodically to the mud tanks. The sumps are constructed of reinforced concrete (see sheet 9 of the calculations) with appropriate waterstops at the joints.

This is to certify that the engineering features of the tank systems, as described above (and with minor modifications as described within the calculations), have been examined by me and found to conform to engineering principles applicable to such

Gary L. Haynes, P.E.

392 Hawaii Way Placentia, CA 92670 G.N.B. INC.

JOB 1064

SHT. 14

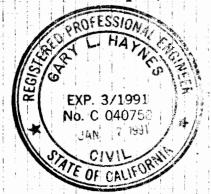
DES.

ANALYOS

DATE

facilities. In my professional judgement, these systems, when-properly constructed, maintained and operated, or closed, will comply with applicable statutes of the State of California and rules of the Department of Health Services.

Date: January 7, 1991



Signature

Gary L. Haynes Name C/040758 CA Reg No.

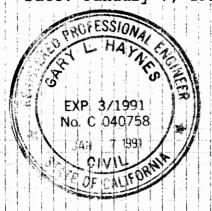
Mailing Address: 392 Hawail Way Placentia, CA

92670 (714) 993-9619

The battery receiving area at GNB, Inc., in Vernon, California, is located at the south end of the reverb furnace material building. This area is 60 feet by 91 feet and is used to hold approximately 560 tons of batteries on pallets. This battery receiving area is equipped with a drainage/containment systems which consists of a sloped concrete floor which directs any spillage of waste constituents to one or more collection sumps. From the collection sumps any spilled liquids flow to the on-site waste acid collection pond and then are pumped into the treatment system for treatment. The acid holding tank and/or muds holding tanks described above would receive any spillage from the battery receiving areas.

This is to certify that the containment features of the hazardous waste container receiving areas, as described above, have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgement, these facilities, when properly constructed, maintained and operated, or closed, will comply with applicable statutes of the State of California and rules of the Department of Health Services.

Date: January 7, 1991



Signature:

Gary I. Haynes Name CA Reg No.: C 040758

Mailing Address: 392/Hawaii Way Placentia CA (714) 993 9619

92670

APPENDIX C

RE: SECTION 7

MATERIAL SAFETY DATA SHEETS

Material Safety Data Sheet May be used to comply with OSHA's Hezerd Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form) Form Approved OMB No. 1218-0072



Battery Electric Storage, Wet, Spent		Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.			
Section I					
Manufacturer's Name		Emergency Telep			
GNB Incorporated		612-681-	5000		
Address (Number, Street, City, State, and ZIP Code)		Telephone Number			
1110 Highway 110		612-681- Date Prepared	5000		
Mendota Heights, MN 55118		April 15	. 1986		
		Signature of Prep			
Section II — Hazardous ingredients/identi	ty information				
Hazardous Components (Specific Chemical Identity; Co	mmon Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Lead Ph		.05 mg/M ³			
Electrolyte: H ₂ SO ₄		1.00 mg/M ³			
(Sulfuric Acid and Water)		,			
-		-	•		
					
Section III - Physical/Chemical Character	istics				
Boiling Point	N/A	Specific Gravity (I-	l ₂ O = 1)		N/A
Vapor Pressure (mm Hg.)	N/A	Melting Point			
Vapor Density (AIR = 1)	N/A	Evaporation Rate			N/A_
	N/A	(Butyl Acetate = 1)		N/A
Solubility in Water					·
and a line a signar N/American and the a	<u> </u>	A-1			<u> </u>
Appearance and Odor					
Acid has sharp, penetrating,		ordor			
Section IV — Fire and Explosion Hazard D	Pata				
Flash Point (Method Used)		Flammable Limits		LEL	UEL
N/A	l			L	
Extinguishing Media					
Dry Chemical Special Fire Fighting Procedures					···
Ordinary					
Urninary					
Unusual Fire and Explosion Hazards					
N/A					

Section V -	Reactivity Data				
Stability ·	Unstable		Conditions to Avoid		
	Stable	X			
incompatibility.(Materials to Avoid)				
Hazardous Decor	nposition or Byprodu	cts	N/A		
Hazardous Polymerization	May Occur .		Conditions to Avoid		
•	Will Not Occur	X			
Section VI -	Health Hazard	Data			
Route(s) of Entry:		ation?		Skin?	ingestion?
Health Hazarda (Acute and Chronic)	dus	<u>t </u>	b and H ₂ SO	Ph and H ₂ SO ₄
Eye and	skin irrita	tic	n. by acid. Pl	over-expo	osure can bring on
abdomina	l colic, c	onsi	ipation, nauses	. anemia.	and muscle fatigue.
•					
Carcinogenicity:	NTP	7		ARC Monographs?	OSHA Regulated?
					•
Medical Condition	ns aled by Exposure	Fyr	osure to acid m	ist can ag	gravate pulmonary conditions.
Octionally rigginat	aldo by Exposite	111	osure to acru i	ISU Can ag	Plava de Dulmonal y Condi di Ong.
Skin=Flux	First Aid Procedures	1 v	with water Eves	=Flush imm	mediately with water and get
					es for at least 15 minutes or
Seelles VII	Presentions &	1610	le Handling and Use	ntil medic	eal attention.
Siene to Be Take	ri in Case Material I	Bele	sed or Solled		
pply an o	equal amour	it o	f baking soda,	soda ash,	caustic soda or equivalent ove
•	•			nd add wat	er if necessary to form a
•	Scoop up s		y. n other forms		
Waste Disposal A		LLAI	n other lorus		
Do not di	ispose, mat	eri	al should be re	cycled by	a licensed battery recycler
	Taken in Handling			7 4 7 4 -	433-
Store wi	th vent sic	<u>e 1</u> 1	<u>p. Neutralize e</u>	Tectrolyte	spills
Other Precaution	•				
					
Seetles VIII	- Control Meas				
	ction (Specify Type)	UIES			· ·
Ventilation	Local Exhaust			Special	
	Mechanical (Genera	7		Other	
Protective Gloves	<u> </u>			Eye Protection	
Rubber				Safety go	ggles or face shield
Other Protective	Clothing or Equipme	nt			
WorldHygienic Pr	actices				

MATERIAL SAFETY DATA SHEET

VEHICE AND THIRD PERSONS ASSUME THE RISK OF INJURY PRODUMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT POLLOWED AS PROVIDED FOR IN THE DATA SHEET, AND VEHICOR SHALL NOT BE LIABLE FOR SUCH MALINT. PURTHERMORE, VEHICOR SHALL NOT BE LIABLE FOR INJURY TO VEHICE OR THIRD PERSONS PROXIMATELY CAUSED BY ASHORMAL USE OF THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE POLLOWED.

ALL PERSONS USING THE PRODUCT, ALL PERSONS WORKING IN AN AREA WHERE THIS PRODUCT IS USED, AND ALL PERSONS MANDLING THIS PRODUCT SHOULD BE FAMILIAR WITH THE CONTENTS OF THIS DATA SHEET POSTING THIS DOCUMENT FOR EMPLOYEE NOTIFICATION IS RECOMMENDED BY THE VENDOR.

	. I PRODUCT	IDENTIFICATION
MANUFACTURER'S NA	ME GNB BATTERIES IN	TELEPHONE NO. (612) 681-5000
ADDRESS 1110 Hz	ghway 110, Mendota Hei	ghts, HN 55118
TRADE NAMES	Pure Lead	
SYNONYMS Soft L	ead, Plumbum	
INTENDED USE	Industrial	
•	II HAZARDO	OUS INGREDIENTS
MATERIAL OR COMPO	ONENT Weight	Z TLV*
Lead (CAS #7439-92-1	99.9	50 μg/H ³
Trace smounts of the	following elements may	be present: Antimony, Arsenic, Bismuth,
Cadalum, Calcium, Co	pper. Nickel, Selenium,	Silver, Sulfur, Tellurium, Tin and/or
Zinc.		
•		
	III PHY	SICAL DATA
SOLING POINT @ 760 MM Hg	3171°F (approx.)	MELTING POINT . 621°F (approx.)
SPECIFIC GRAVITY (HIO = 1)	11.3 (approx.)	VAPOR PRESSURE at 1112°F 3.1 x 10 ⁻⁵
VAPOR DENSITY (AIR = 1)	Not applicable	SOLUBLITY IN HA (% SY W/T) Negligible
% VOLATILES BY VOL	Not applicable	EVAPORATION RATE Not applicable
APPEARANCE AND ODOR	Silver-gray metal; n	o apparent odor

^{*}Ref: Occupational Safety and Health Standards, General Industry Standards 1910. Page 1 of 4

IV HEALTH HAZARD INFORMATION

Routes of Exposure When Processing or Handling

Inhalation: Dust, vapor and/or fume may be irritating to the respiratory system and can result in both acute and chronic overexposure.

Skin Contact: Dust, vapor and/or fume may cause irritation.

Skin Absorption: Dust, wapor and/or fume are not readily absorbed through the skin.

Eye Contact: Dust, vapor and/or fume may cause irritation.

Ingestion: Dust, vapor and/or fume may be absorbed by the digestive system, and can result in both acute and chronic overexposure.

Effects of Overexposure

Acute Overexposure -- If left untreated: weakness, vomiting, loss of appetite, uncoordinated body movements, convulsions, stupor, and possibly come.

Chronic Overexposure -- If left untreated: weakness, insomnia, hypertension, slight irritation to skin and eyes, metallic taste in mouth, anemia, constipation, headache, muscle and joint pains, neuromuscular dysfunction, possible paralysis and encephalopathy.

"mergency and First Aid Procedures

yes: Flush with copious quantities of water. Get immediate medical attention.

Skin: Wash thoroughly with soap and water.

Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.

Ingestion: Get immediate medical attention.

Notes to Physician

Lead and its inorganic compounds are neurotoxins which may produce neuropathy. For an overview of the effects of lead exposure, consult Occupational Safety and Health Administration Appendix A of Occupational Exposure to Lead (29CFR1910.1025).

				Page 3 of 4
	V FIRE A	AND EXPLO	DSION DATA	
Flash Point (Test Method)	Not Applicable		Autoignition Temperature	Not Applicable
Flammable Limits in /	Vir (% By Vol)	LOWER	Not Applicable	UPPER Not Applicable
Extinguishing Media	Dry chemical or car Do not use water on			
	full.body protective c thing apparatus operat			
and Explosion Te	lten metals produce fu spiratory irritants. th strong oxidizing ag	This produc		
	· VI	REACTIVIT	Y DATA	
Conditions Contributi To Instability	ng Not Applicable			
Incompatibility St	rong Oxidizers and thi	s product s	may liberate hydroge	en gas.
Hazardous Decompos Products	ition High temperatu	res may pro	duce heavy metal fu	me, vapor and/or dust.
Conditions Contributions Hazardous Polymeriza				
	VII SPILL	OR LEAK	PROCEDURES	
Dust material sho Particulate matte	Material is Released or Spilled buld be vacuumed, or we er should be stored in ir or dry sweeping as	et swept wi dry contai	ners for later disp	
Neutralizing Chemical	Not Applicable	•		
Waste Disposal Metho Dispose of toxic a regulations.		us wastes i	n accordance with 1	local, state and federa
·	VIII SPECIAL P	ROTECTIO	N INFORMATION	
Conference of Gove are above the perm	scribed in the industi	ygienists, ts or thres	shall be provided i	in areas where exposure:
	PROTECTION EQUIPMENT			
Respiratory As spe Administration Sta regulations may al	ndards for Occupations	025(f) of t al Exposure	he Federal Occupati to lead. Other lo	onal Safety and Health cal and state
Eye Face shie	ld or wented goggles s	hould be u	sed around molten m	etal.
Glove Gloves sh	ould be worn when hand	lling the p	roduct is necessary	·

veralls or other full body clothing shall be worn during product use and properly waundered after use, with the wash water disposed of in accordance with local, state and federal regulations. Hard hat, safety boots and other safety equipment should be worn as appropriate for the industrial environment. Personal clothing and shoes should be protected from contamination with this product.

Other Clothing and Equipment

نے

IX SPECIAL PRECAUTIONS

PRECAUTIONARY

There are two major means of heavy metal absorption; namely, inhalation and ingestion. Most inhalation problems can be prevented with adequate use of aforementioned ventilation and respirator information. Always exercise normal, good personal hygiene prior to smoking or eating. Smoking and eating should be confined to non-contaminated areas.

Work clothes and equipment should remain in designated lead contaminated areas, and never taken home or laundered with personal clothing. Launder contaminated clothing before reuse.

Wash hands, face, neck and arms thoroughly before eating or smoking.

The product is intended for industrial use only, and should be isolated from children and their environment.

THER HANDLING AND STORAGE REQUIREMENTS

Store in dry area where accidental contact with acids is not possible.

Avoid skin contact.

Adhere to all personal protection equipment procedures when handling, and ventilation requirements when heavy metal exposures are above permissible exposure limits or threshold limit values.

BEFORE USING THIS PRODUCT, BE FAMILIAR WITH THE INFORMATION CONTAINED IN:

The Federal Standard for Occupational Exposure to Lead (29CFR1910.1025) published in the Federal Register on Tuesday, November 14, 1978, by the Occupational Safety and Health Administration.

ARED BY

Industrial Hygiene Department

ADDRESS

1110 Highway 110, Mendota Heights, MN 55118

DATE

July, 1984

Abbreviations:

...

Sb = Antimony

As = Arsenic

Cd - Cadmium

Ca = Calcium

Sn = Mn

MATERIAL SAFETY DATA SHEET

VENDEE AND THIRD PERSONS ASSUME THE RISK OF INJURY PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT POLLOWED AS PROVIDED FOR IN THE DATA SHEET, AND VENDOR SHALL NOT BE LIABLE FOR SUCH MAJURY PURITHERMORE, VENDOR SHALL NOT BE LIABLE FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ASHORMAL USE OF THE MATERIAL EYEN IF REASONABLE SAFETY PROCEDURES ARE POLLOWED.

ALL PERSONS USING THIS PRODUCT, ALL PERSONS WORKING IN AN AREA WHERE THIS PRODUCT IS USED, AND ALL PERSONS HANDLING THIS PRODUCT SHOULD BE FAMILIAR WITH THE CONTENTS OF THIS DATA SHEET. POETING THIS DOCUMENT FOR EMPLOYEE NOTIFICATION IS RECOMMENDED BY THE VENDOR

	I PRODUCT	IDENTIFICATIO	N	·
MANUFACTURER'S NA	ME GNB BATTERIES IN	C. TELEPH	ONE NO. (612)	681-5000
ADDRESS 1110 H1	ghway 110, Mendota Hei	ghts, MN 55118	•	
TRADE NAMES	Hard Lead			
SYNONYMS Antimo	nial or Arsenical or Co	admium or Calciu	m-Tin Lead Alloy	7
INTENDED USE	Industrial			
	II HAZARDO	OUS INGREDIEN	TS	
MATERIAL OR COMPO	NENT Weight X	Weight X	Weight X	
	Sb/As	Cd/Sb/As	Ca/Sn	
	Lead Alloy	Lead Alloy	Lead Alloy	TLV*
Lead (CAS #7439-92-1	78-99X	90-997	98-992	0.05 mg/M
Arsenic (CAS #7440-38	3-2) 0-2X <0.1X	0-0.5X <0.1X	<0.1% 0.05-0.2%	0.01 mg/M
Calcium Cadmium	<0.17	0.05-27	<0.17	0.1 mg/m ³
Copper	0-0.2%	0.01-0.2%	<0.1%	0.1 mg/M3
Antimony (CAS #7440-1		1-67	<0.1%	0.5 mg/M3
Selenium	<0.1%	<0.12	<0.17	0.2 mg/M-
Tin (CAS #7440-31-5)	0-27	0-12	0-17	2 mg/M-
Trace amounts of the	following elements may	y be present: A	luminum, Bismuth	, Nickel,
		SICAL DATA		
BOILING POINT @ 760 MM Hg	Greater than 2516°F	MELTING POINT	486 - 680°F	
SPECIFIC GRAVITY (MO = 1)	9.6 - 11.3	VAPOR PRESSURE	Not applicable	
VAPOR DENSITY (AIR = 1)	Not applicable	SOLUBILITY IN HID (1	sy wη Negligi	ble
% VOLATILES BY VOL	Not applicable	EVAPORATION BATE (BUTYL ACETATE = 1)	MUL EDULL	able
APPEARANCE AND ODOR	Bluish-gray metal; no apparent odor			

IV HEALTH HAZARD INFORMATION

Routes of Exposure When Processing or Handling

Inhalation: Dust, vapor and/or fume may be irritating to the respiratory system, and can result in both acute and chronic overexposure.

Skin Contact: Dust, vapor and/or fume may cause irritation.

Skin Absorption: Dust, vapor and/or fume are not readily absorbed through the skin.

Eye Contact: Dust, wapor and/or fume may cause irritation.

Ingestion: Dust, vapor and/or fume may be absorbed by the digestive system, and can result in both scute and chronic overexposure.

Effects of Overexposure,

Acute Overexposure -- If left untreated: weakness, vomiting, loss of appetite, uncoordinated body movements, convulsions, stupor, and possibly coma.

Chronic Overexposure -- If left untreated: weakness, insomnia, hypertension, slight irritation to skin and eyes, metallic taste in mouth, anemia, constipation, headache, muscle and joint pains, neuromuscular dysfunction, possible paralysis and encephalopathy.

mergency and First Aid Procedures

Eyes: Flush with copious quantities of water. Get immediate medical attention.

Skin: Wash thoroughly with soan and water.

Inhalation: Remove from exposure. Get medical attention if experiencing effects of overexposure.

Ingestion: Get immediate medical attention.

Notes to Physician

Lead and its inorganic compounds are neurotoxins which may produce neuropathy. 'For an overview of the effects of lead exposure, consult Occupational Safety and Health Administration Appendix A of Occupational Exposure to Lead (29CFR1910.1025). Arsenic may be a pulmonary carcinogen. For overview of the effects of arsenic exposure, consult Occupational Safety and Health Administration Appendices of Occupational Exposure to Inorganic Arsenic (29CFR1910.1018). Arsenic, antimony, tin and inorganic tin compounds are primary chemical irritants of the skin. The chronic effects of antimony ingestion resemble those of arsenic. Antimony is a severe pulmonary irritant, and stannic oxide has been shown to cause benign pneumoconiosis. Copper is not normally toxic when ingested orally in amounts expected from occupational exposure. Exposure to copper dust, vapor or fumes may cause metal fume fever. Cadmium overexposure may result in irreversible lung injury accompanied by abnormal lung function, and renal tubular - damage. It may also cause ulceration of nasal septum, damage of olfactory nerve and anosmia. Exposure to selenium may cause anemia, bronchitis, as well as liver and kidney damage. Selenium has also been known to antsgonize the toxic effects of some other metals such as cadmium and arsenic. Calcium compounds should be considered toxic only when they contain toxic substances. Calcium oxide can be irritating to the skin, eyes and mucous membranes.

V	FIRE	AND	EXPL	OSION	DA	ATA
					_	

Flash Point [Test Method] Not Applicable Autoignition Temperature Not Applicable

Flammable Limits in Air (% By Vol)

LOWER Not Applicable UPPER Not Applicable

Expressisting Addia Dry chemical or carbon dioxide should be used on surrounding fire.

Extinguishing Media Dry chemical or carbon dioxide should be used on surrounding life
Do not use water on fires where molten metal is present.

Special Fire Fighting Procedures

Use full body protective clothing and full-face piece, self-contained breathing apparatus operated in a positive-pressure mode.

Unusual Fire and Explosion Hazard

Molten metals produce fume, vapor and/or dust that may be toxic and/or respiratory irritants. This product, or its dust, can react vigorously with strong oxidizing agents.

VI REACTIVITY DATA

Conditions Contributing

To Instability Not Applicable

incompatibility Strong Oxidizers and this product may liberate hydrogen gas.

Hazardous Decomposition Products

High temperatures may produce heavy metal fume, vapor and/or dust.

Conditions Contributing to

Hazardous Polymerization Not Applicable

VII SPILL OR LEAK PROCEDURES

Steps To Be Taken If Material Is Released or Spilled

Dust material should be vacuumed, or wet swept where vacuuming is not feasible. Particulate matter should be stored in dry containers for later disposal. Do not use compressed air or dry sweeping as a means of cleaning.

Neutralizing Chemicals

Not Applicable

Waste Disposal Method

Dispose of toxic substances and hazardous wastes in accordance with local, state and federal regulations.

VIII SPECIAL PROTECTION INFORMATION

Ventilation Requirements

Ventilation, as described in the <u>Industrial Ventilation Manual</u> produced by the American Conference of Governmental Industrial Hygienists, shall be provided in areas where exposures are above the permissible exposure limits or threshold limit values specified by OSHA or other local, state and federal regulations.

SPECIFIC PERSONAL PROTECTION EQUIPMENT

Respiratory As specified by 29CFR1910.1025(f), and 29CFR1910.1018 Subpart (h) of the Federal Occupational Safety and Health Administration Standards for Occupational Exposure to lead and Inorganic Arsenic, respectively. Other local and state regulations may also apply.

Eve Face shield or vented goggles should be used around molten metal.

Glove Gloves should be worn when handling the product is necessary.

Other Clothing and Equipment

laundered after use, with the wash water disposed of in accordance with local, state and federal regulations. Hard hat, safety boots and other safety equipment should be worn as appropriate for the industrial environment. Personal clothing and shoes should be protected from contamination with this product.

IX SPECIAL PRECAUTIONS

PRECAUTIONARY TATEMENTS

There are two major means of heavy metal absorption; namely, inhalation and ingestion. Most inhalation problems can be prevented with adequate use of aforementioned ventilation and respirator information. Always exercise normal, good personal hygiene prior to smoking or eating. Smoking and eating should be confined to non-contaminated areas.

Work clothes and equipment should remain in designated lead contaminated areas, and never taken home or laundered with personal clothing. Launder contaminated clothing before reuse.

Wash hands, face, neck and arms thoroughly before eating or smoking.

The product is intended for industrial use only, and should be isolated from children and their environment.

THER HANDLING AND STORAGE REQUIREMENTS

Store in dry area where accidental contact with acids is not possible.

Avoid skin contact.

Adhere to all personal protection equipment procedures when handling, and ventilation requirements when heavy metal exposures are above permissible exposure limits or threshold limit values.

BEFORE USING THIS PRODUCT, BE FAMILIAR WITH THE INFORMATION CONTAINED IN:

The Federal Standard for Occupational Exposure to Lead (29CFR1910.1025) published in the Federal Register on Tuesday, November 14, 1978, by the Occupational Safety and Health Administration, and the Federal Standard for Occupational Exposure to Arsenic (29CFR1910.1018) published in the Federal Register on Friday, May 5, 1978, by the Occupational Safety and Health Administration.

REPARED BY	Industrial Hygiene Department	•	
ADDRESS	1110 Highway 110, Mendota Heights, MN 55118		
DATE	July, 1984	•.	

PRODUCT CCDE: 01-00222 DATE: 3/12/86 PAGE: 1

MATERIAL SAFETY DATA SHEET

NNWALT CORPORATION IREE PARKHAY

WHILADELPHIA, PA 19102

EMERGENCY PHONE NUMBERS

BUSINESS EAST: 215-587-7695

· BUSINESS WEST: 503-238-7230 DITHER #1: 2C6-627-9101

PRODUCT IDENTIFICATION

PRODUCT NAME:

CAUSTIC SODA. FLAKE

CAS NO.:

131C-73-2

CHEMICAL NAME:

SUDIUM HYDROXIDE

MOLECULAR FORMULA: NACH

SYNONYMS:

CAUSTIC SODA, CAUSTIC, LYE

CHEMICAL FAMILY: ALKALI

INGREDIENTS----HAZARD CLASSIFICATIONS

COMPONENTS:

CAS NO.:

% DSHA:

NFPA:

SODIUM HYDRUXIDE

1310-73-2 96 CORRCSIVE 3-0-1

SHIPPING INFORMATION

50# BAGS & DRUMS: CAUSTIC SUDA, DRY; CORROSIVE MATERIAL; UN 1823. BULK BAGS: RQ CAUSTIC SODA, DRY; CORROSIVE MATERIAL; UN 1823; DOT

3871.

EPORTABLE QUANTITY (RQ) IS 1,000 LBS.

PHYSICAL PROPERTIES

BOILING POINT/RANGE: 1388 C 2532 F ·

MELTING POINT: 318 C 604 F FREEZING POINT: 318 C 604 F

MOLECULAR WEIGHT:

SPECIFIC GRAVITY(H20=1): VAPOR PRESSURE(MM HG):

40.01

2.130 2 / 20 C

42 alcoo C/ 1832 F

VAPOR DENSITY(AIR=1): NA

SOLUBILITY IN H2O: 109GM / 100GM @ 20 C % VOLATILES BY VOLUME:

NON-VOLATILE

APPEARANCE AND UDOR:

GRAYISH-WHITE CRYSTAL, FLAKE, OR SCLID. ESSENTIALLY COORLESS.

FIRE AND EXPLOSION DATA

FLASH PUINT:

FLANNABLE LIMITS:

AUTOIGNITION TEMP.:

NONE

LUMER: NONE UPPER: NONE

NCNE

- NUT APPLICABLE NE - NOT ESTABLISHED

1) - INDICATES REGISTERED TRADEMARK OF PENNHALT CORPORATION

MSDS

PRODUCT CODE: 01-00222 DATE: 3/12/86 PAGE:

FIRE AND EXPLOSION DATA - CONTINUED

XTINGUISHING MEDIA:

NA

PECIAL FIRE FIGHTING PROCEDURES:

KEEP PRODUCT OUT OF WATER SOURCES AND SEHERS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

REACTIVITY DATA

STABILITY: STABLE

CONDITIONS CONTRIBUTING TO INSTABILITY: NA

INCOMPATIBILITY-AVOID CONTACT WITH:

STRUNG ACIDS

CAN REACT VIOLENTLY OR EXPLOSIVELY WITH WATER AND SOME CHEMICALS SUCH AS CHLORINATED HYDRUCARBUNS AND DRGANIC ACIDS. HAZARDOUS CARBEN MONOXIDE GAS CAN FORM UPON CONTACT WITH FOOD AND BEVERAGE PRODUCTS IN ENCLOSED SPACES AND CAN CAUSE DEATH. FULLUM APPROPRIATE TANK ENTRY PROCEDURES (SEE ANSI 2117.1-1977).

HAZARDOUS DECOMPOSITION THERMAL AND UTHER:

WILL REACT WITH SOME METALS, E.G. ALUMINUM, TIN, ZINC, TO FORM FLAMMABLE HYDRUGEN GAS.

CONDITIONS TO AVOID:

WHEN MAKING SOLUTIONS, AVOID RAPID TEMPERATURE RISE, VIOLENT SPATTERING OR EXPLUSIVE ERUPTIONS BY ALWAYS ADDING CAUSTIC SODA TO WATER. NEVER ADD WATER TO CAUSTIC SUDA. HEAT WATER TO 80-100 F BEFORE ADDING CAUSTIC SUDA. ADD SMALL AMOUNTS OF PRODUCT SLOWLY AND EVENLY OVER SURFACE OF WATER WITH CUNSTANT STIRRING. NEVER INCREASE CONCENTRATION OF PRODUCT IN SULUTION BY MURE THAN 5% HITH ANY SINGLE ADDITION. HATER SHOULD NOT EXCEED 160 F DURING ADDITION.

TUXICITY

ROUTE:

ANIMAL:

ORAL DERMAL RABBIT

INHALATIUN

LD 50 500 MG/KG SEE COMMENTS.

NE, SEE TOXICITY COMMENTS.

NE. SEE TOXICITY COMMENTS.

DATAS

TOXIC EFFECTS

EYE EFFECTS:

CORRUSIVE

- NUT APPLICABLE NE - NOT ESTABLISHED

(%) - INUICATES REGISTERED TRADEMARK OF PENNHALT CORPORATION

PENNWALI CUKPUKATIUN

PRUBUCI CLUE: 01-00222 DATE: 3/12/86 PAGE:

TOXICITY - CONTINUED



CAUSES VERY RAPID SEVERE DAMAGE, AS SOLID OR IN SOLUTION. MAY CAUSE BLINDNESS. 🐣

SKIN EFFECTS:

CORRUSIVE

DERMAL: CORRUSIVE BURNS TO ALL BODY TISSUE CONTACTED.

OTHER TUXIC EFFECTS:

NE

TARGET URGAN TOXIN: NE

TOXICITY COMMENTS:

CAUSES SEVERE BURNS OF THE MUCCUS MEMBRANES OF THE MOUTH, THROAT, ESOPHAGUS AND STOMACH.

CHRUNIC (CUNTACT WITH PRODUCT DUST OR DILUTE SOLUTIONS): MAY CONSIST OF MULTIPLE AREAS OF SUPERFICIAL DESTRUCTION OF THE SKIN OR PRIMARY IRRITANT DERMAIITIS. SIMILARILY, INHALATION OF THE DUST MAY RESULT IN VARYING DEGREES OF IRRITATION OF THE RESPIRATORY TRACT TISSUE. MAY VARY FROM MILD IRRITATION OF NASAL MUCOUS MEMBRANES TO SEVERE PNEUMONITIS. LUNG EFFECTS: INHALATION OF DUST OR MIST MAY CAUSE DAMAGE

TU UPPER RESPIRATORY TRACT AND EVEN TO LUNG TISSUE PROPER.

HEALTH HAZAKO INFURMATION

ERMISSIBLE EXPUSURE LIMITS:

ACGIH 1984 (AIR) 2MG/M3 (C) / GSHA 1981 (AIR) CL 2 MG/M3 / NONE

*********************************** EMERGENCY FIRST AID

INGESTIUN:

DO NOT INDUCE VUMITING

GIVE PLENTY OF WATER GET MEDICAL ATTENTION

DRINK LARGE QUANTITIES OF MILK, FOLLOW WITH DILUTE VINEGAR OR FRUIT

JUICE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

DERMAL:

GET MEDICAL > ATTENTION

CONTAMINATED CLUTHING -

REMOVE AND LAUNDER

FLUSH WITH PLENTY OF WATER FOR AT LEAST 30 MINUTES. OR UNTIL MEDICAL-

ATTENTION IS OBTAINED. DESTROY CONTAMINATED LEATHER OR CANVAS SHOES.

EYE CONTACT:

FGET MEDICAL

AITENTION

- NUT APPLICABLE NE - NOT ESTABLISHED

(Vi) - INDICATES REGISTERED TRADEMARK OF PENNWALT CORPORATION

DATE: 3/12/86 PAGE:

HEALTH HAZARD INFORMATION - CONTINUED

FLUSH HITH PLENTY OF WATER FOR AT LEAST 30 MINUTES, OR UNTIL MEDICAL ATTENTION IS OBTAINED.

INHALATION:

REMOVE TO - FRESH AIR

IF NOT BREATHING GIVE DXYGEN GIVE ARTIFICIAL

GET MEDICAL

RESPIRATION

SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS:

USE WITH ADEQUATE **VENTILATION**

FUR PROPER TANK ENTRY PROCEDURES, SEE ANSI Z117.1-1977. MONITOR CARBON MUNUXIDE AND UXYGEN LEVELS IN TANKS AND ENCLOSED SPACES.

EYE:

FACE SHIELD

GOGGLES

HAND(GLOVE TYPE): SYNTHETIC RUBBER

RESPIRATUR TYPE:

FILTERS:

DUST

MIST

USE ONLY NIOSH APPROVED EQUIPMENT.

OTHER PROTECTIVE EQUIPMENT: RUBBER BOOTS

RUBBER BUDIS, CUTTUN HURK CLOTHES, RUBBER SUIT OR APRON, IF NECESSARY.

SPECIAL HANDLING AND STURAGE CONDITIONS

WASH THUROUGHLY

AFTER HANDLING

DO NOT GET IN EYES, DO NOT BREATHE
ON SKIN OR CLOTHING DUST, VAPOR, MIST, GAS

KEEP CUNTAINER

CLOSED

STORE IN TIGHTLY CLOSED CONTAINERS EMPTY CONTAINER MAY CONTAIN HAZARDOUS

RESIDUES

SAFETY SHOWERS AND EYE WASH FOUNTAINS SHOULD BE INSTALLED IN ANY AREA WHERE NACH IS HANDLED.

NUT APPLICABLE NE - NCT ESTABLISHED

INDICATES REGISTERED TRADEMARK OF PENNHALT CORPORATION

PRUUGCI CCUE: 01-00222 DATE: 3/12/86 PAGE:

SPILL MANAGEMENT

FLUSH WITH WATER

NEUTRALIZE

SHEEP OR SCUOP UP AND REMOVE

PREVENT SPREAD OF SPILL

KEEP PRODUCT OUT OF WATER SOURCES AND SEHERS.

DISPUSAL PRUCEDURES

DILUTE WITH WATER THEN NEUTRALIZE WITH DILUTE ACID.

CONSULT FEDERAL, STATE, OR LUCAL AUTHURITIES FOR PROPER DISPOSAL PROCEDURES. *************************

MSUS PREPARED BY JAMES E. FIKE

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER. SINCE DATA, SAFETY STANDARDS, AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE AND THE CUNDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTRUL, PENNWALT MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.



- NUT APPLICABLE NE - NOT ESTABLISHED

· INDICATES REGISTERED TRADEMARK OF PENNHALT CORPORATION



MATERIAL SAFETY DATA SHEET

CHEMICAL NAME & SYNONYMS	CHEMICAL NAME & SYNONYMS TRADE NAME		S	
Red Amorphous Phosphorus		RAP	1	
MANUFACTURER			EMERGENCY TELEPHONE No.	
ERCO Industries Limited			(819) 986-3366 ·	
2 Gibbs Road, Islington, Ontario,	M9B 1R1, (CANADA		
CHEMICAL FORMULA	MOL. WT.	USES	No.	
P ₄	124	Match manufacture Pyrotechnics Flares		

PHYSICAL PROPERTIES

BOILING POINT °C	-	PERCENT VOLATILE (VOLUME)	-	
FREEZING POINT C	-	VAPOUR PRESSURE mm Hg	-	
SPECIFIC GRAVITY (H20 = 1)	-	EVAPORATION RATE	-	
SOLUBILITY IN WATER g 100 ml		pH 1% spl'n. 25°C	-	
APPEARANCE & ODOUR Purplish red powder				

FIRE AND EXPLOSION HAZARDS Flammable solid

FLASH POINT °C	FLAMMAB UPPER	LE LIMITS LOWER	AUTOIGNITION TEMP. °C
EXTINGUISHING MEDIA	Water		
SPECIAL FIRE FIGHTING I		burning materi	ial. Cover with wet sand.
UNUSUAL FIRE & EXPLOS	ION HAZARDS	77,	
Ignites easily w	with friction or spa	rks.	·

REACTIVITY

INCOMPATIBILITY

Reacts violently with strong oxidizing substances. Reacts with strong alkali to form phosphine.

HAZARDOUS DECOMPOSITION PRODUCTS

Burning RAP releases dense fumes of $P_2 O_5$ which are irritating.

CONDITIONS TO AVOID

Store away from oxidizing substances and inflammable materials.

HEALTH RELATED DATA NON TOXIC

RESHOLD LIMIT VALUE N.A. NA

ECTS OF OVEREXPOSURE (SKIN, EYE, INHALATION, ETC.)

May ignite on skin, causing burns. -

SPECIAL MEDICAL PROCEDURES

Wash thoroughly. Flush eyes with water. Obtain medical attention. Treat burns as for white phosphorus.

SPECIAL PROTECTION INFORMATION

Use in well ventilated areas.

RESPIRATOR

GLOVES Rubber or plastic

Chemical safety glasses - full face shields recommended

OTHER Rubber boots and apron

SPILL OR LEAK PROCEDURES

SPILL OR LEAK CLEAN-UP

Clean up dry material carefully. Store in metal container. Wet contaminated area. Wash with water.

WASTE DISPOSAL

Bury in suitable land fill site.

SPECIAL PRECAUTIONS

SPECIAL HANDLING & STORAGE

Store away from inflammables and oxidizing materials. Use plastic or non-sparking tools. Ground metal containers.

OTHER PRECAUTIONS

(

ARKS/REFERENCES

MATERIAL SAFETY DATA SHEET

Company Name: Resources Alloys and Metals Inc. Company Address: 24277 Indoplex Circle

Farmington Hills, MI. 48018

Emergency Telephone No.: 313-478-7790

Product Name: Antimony

Synonyms:

	H	AZARDOUS INGREDIENTS	
Definite Ingredient	Suspect Ingredient	Ingredient	Nominal %
- * 		Aluminum Antimony Cadmium Chromium Cobalt Copper Gold Iron Lead Magnesium Molybdenum Nickel Platinum	\\ \frac{1}{\lambda} \\ \frac{\lambda}{1} \\ \frac{\lambda}{\lambda} \\ \fr
<u>x</u>		Silver Tin Titanium	<u> </u>
<u>*</u>		Tungsten Zinc Asselic Bismuth	

If there are checks next to the ingredients, those ingredients are believed to be definitely included or are suspected to be included in the scrap metal. See the attached information for each element.

If there is no check next to an ingredient, that ingredient is not believed to be included in the scrap metal.

(Over)

SPECIAL PROTECTION INFORMATION

VENTILATION: Local exhaust ventilation should be used to keep worker exposures within allowable limits during welding or grinding operations.

RESPIRATORY PROTECTION: When engineering or administrative controls are not feasible to control overexposure or while they are being instituted, appropriate NIOSH-approved respirators should be used and selected according to 29 CFR 1910.134.

EYE PROTECTION: Appropriate personal protective equipment for the eyes should be worn when there is a reasonable probability of injury due to welding or grinding.

PROTECTIVE GLOVES: As needed to protect against physical hazards.

PHYSIOLOGICAL EFFECTS

<u>Primary Route of Exposure</u>: Inhalation of fumes from welding or burning; dusts from grinding or cutting.

Acute Effects: Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever." Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after large exposures. Long-term effects of metal fume fever have not been noted.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: If acute overexposure to fumes occurs, remove victim from the adverse environment and seek medical attention.

SKIN CONTACT: If dust or mist gets on the skin, wash the contaminated skin with soap and water. Remove contaminated clothing and launder before using again.

EYE CONTACT: Flush with large amounts of water.

INGESTION: If particles are ingested, give 1-2 glasses of water or milk.

Induce vomiting only if victim is fully conscious and has not convulsed.

All ingestion cases should have immediate medical aid.

(Continued)

SPILL OR LEAK PROCEDURES

Minimal problems with spills of this product would occur because of its solid form. However, if there is a spill of dust, clean up using methods which avoid dust generation and the use of water, such as vacuum. If airborne dust is generated during the clean-up, use an appropriate NIOSH-approved respirator.

Waste Disposal Method: Dispose of in accordance with appropriate federal, state and local regulations.

CARCINOGENIC ASSESSMENT

See appropriate attachment.

FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A

Flammable Limits: N/A

Metal products are not a fire hazard. However, dust generated in grinding operations may present a fire or explosion hazard.

Extinguishing Media: Special mixtures of dry chemical suitable for metal fires.

REACTIVITY DATA

See appropriate attachment.

ADDITIONAL COMMENTS

The scrap metal itself presents no health hazard unless it is welded, burned, ground or cut. During these procedures, it is possible that excessive amounts of fume or dusts may be generated. It is advised that your particular operation be evaluated by a competent health professional to determine whether or not a hazard exists.

In case of questions, please call: Richard Roles

Company: Resources Alloys and Metalephone No.: 313-478-7790

Issue Date: 11-24-85 Supersedes:

This information is taken from sources believed to be reliable; however, Resources Alloys and Meta Takes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

ANTIMONY (Sb)

OSHA PEL: 0.5mg/M³

ACGIH TLV: 0.5mg/M³

PHYSICAL DATA

Appearance: Silvery or gray lustrous metal

Melting Point: 630°C

PHYSIOLOGICAL EFFECTS

Excessive exposure to antimony has caused dermatitis, rhinitis, eye irritation, pain and tightness in the chest, gastrointestinal disorders and neurological disturbances such as irritability, sleeplessness, dizziness and neuralgia.

REACTIVITY DATA

Antimony is incompatible with ammonium nitrate, halogens, BrN3, BrF3, $HC10_3$, C10, $C1F_3$, nitric acid, potassium nitrate, potassium permanganate, K_20_2 , sodium nitrate, oxidants, acids and halogenated acids.

ADDITIONAL COMMENTS

When heated or on contact with acids, antimony emits toxic fumes of SbH3.



ARSENIC

ta adda.		
F . ~ T		RMATION
	2:14 2:1:120	1

TRADE NAME (COMMON NAME OR SYNONYM)	ASARCO	PRODUCT	CODE #	. 60-10-0
Arsenic, Arsenic Metal	60-10	0-090 0-502	50-10-400	50-10-5
CHEMICAL NAME				
Arsenic				
FORMULA		MOLECUL	LAR WEIGHT	
As			74.91	
ADDRESS (No., STREET, CITY, STATE AND ZIP CODE)				
ASARCO 120 Broadway New York, New York 10271 Phone: 212-669-1000			,	
CONTACT PHONE NUMBER		D DATE		D DATE
General Information - Department of Environmental Sciences DAY 801-262-245	:0	3/17/83		/17/83
First Aid Information - (Dr. C. H. Hine) DAY 415-777-221 Transportation Emergencies - CHEMTREC 800-424-930	54 13 14			

HAZARDOUS INGREDIENTS

-1	MATERIAL OR COMPONENT	C.A.S. #	WT. %	PERMISSIBLE AIR CONCENTRATION
~.rsenic		7440-38-2	99.9+	0.01 mg/cu.m.
	-			
			-	
				Ø OSHA □ ACGIH
				☐ OTHER

C 是FIRST AID MEASURES

Inhalation: Administer palliative treatment such as gargling; wash nose and lips. Contact a physician.

Ingestion: Induce vomiting in a conscious individual, give a demulcent and contact a physician.

Skin: Flush with plenty of water; contact a physician.

Eyes: Flush with water for at least 15 minutes; contact a physician.

ALATION Cust or fume inhalation may cause severe irritation of the lungs, upper respiratory tract or a perforated masal septum. Systemic arsenic poisoning may occur with symptoms of might loss, nausea, diarrhea, weakness, loss of appetite and skin lesions.

evere irritation of lining of stomach and intestines may occur. May cause arsenic poisoning.

SKIN

Dust or fume may cause severe irritation, dermatitis or contact dermatitis.

EYES

Severe irritation of the eyes or conjunctivitis may occur.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED

Diseases of the liver, kidneys or nervous system.

UNUSUAL CHRONIC TOXICITY

Possible increase in cancers of the skin, respiratory tract, lymphocytic system and liver Damage to liver, kidney and nervous system.

FIRE AND EXPLOSION

·C AUTO IGNITION FLASH POINT **TEMPERATURE** NOT APPLICABLE

*C FLAMMABLE LIMITS IN AIR (% BY VOL.)

OPEN CUP CLOSED CUP NOT APPLICABLE

NOT APPLICABLE

UNUSUAL FIRE AND EXPLOSION HAZARDS

NOT APPLICABLE

PRECAUTIONS/PROCEDURES

HIME EXTINGUISHING AGENTS RECOMMENDED

specific agents recommended.

FIRE EXTINGUISHING AGENTS TO AVOID

No specific agents.

SPECIAL FIRE FIGHTING PRECAUTIONS

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire.

ENGINEERING CONTROLS

Local exhaust ventilation is required for screening, heating, dumping, shoveling, or other operations where excessive airborne exposures may occur.

NORMAL HANDLING

Activities which generate dust or fume should be avoided. Use of approved respirators is required for applications where adequate ventilation cannot be provided. When melted, the temperature should be kept as low as possible.

AVOID storage near acids, bases, nascent hydrogen or reducing agents.

SPILL OR LEAK

A clean-up procedure which minimizes exposure is required. Vacuuming is preferred. Place all material in closed containers. Do not use compressed air for cleaning. Use approved respiratory protection if possibility of dust/fume exposure exists.

S-CIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

signs for work areas and labels for shipping and storage containers and products may be uired under OSHA regulations. Medical examinations, monitoring, recordkeeping and siene facilities and practices specified by OSHA may have signal word:

Employee training program may also be required.

DANGER

PERSONAL HYGIENE

Practice good housekeeping and personal hygiene procedures. No tobacco or food in work area. Wash thoroughly before eating or smoking. Avoid ingestion or inhalation. Take a shower and change clothes at end of shift. Do not wear contaminated clothing home. Do not use compressed air for blowing dust off of clothes.

hield required for operations where eye ng, gloves, shoes or coverlets is required home. Laundering should be provided. ND ODOR metal, odorless or smaller TY VAPOR DENSITY (AIR = 1) NOT APPLICABLE VAPOR PRESSURE (mm Hg at 20° C)
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41 ENVIRONMENTAL

_PA HAZARDOUS SUBSTA					
1		O, REPORTABLE QUAN	πгγ:		40 CFR 116-117
POT classifies ar pison B UN1558" placarded with th	and the regular i	DOT Poison laha?	age must bear l. Transport	the marking "An vehichles must	rsenic, solid also be
WASTE DISPOSAL METHO			STATE AND LOCAL	DISPOSAL OR DISCHAP	IGE LAWS)
If hazardous unde a facility meetin should be dispose	g the requirement	ts of 40 CFR 264	1 or 265. If	non-hazardous.	disposed in material
ACRA STATUS OF UNUSE	D MATERIAL:				40 CFR
If discarded in usuaste due to list Under specific cito have a particu	ing in 40 CFR 261 rcumstances, appl	1.11(3), Appendi Lication can be	x VIII. made to the		261.11
FUR REFERENCES					
PERMISSIBLE CONCENTRA					
OSHA Regulation 29	9 CFR 1910.1018 1	inorganic Arseni	. c		
MAZARD INFORMATION RE "Documentation of Patty's Industrial NFPA "Fire Protect Handbook of Toxic	FERENCES the Threshold Li Hygiene and Tox ion Guide on Haz and Hazardous C	mit Values," 4t icology, Vol. 2 ardous Material hemicals": Sitt	h Ed., ACGIH A, 3rd Rev. I s," 6th Ed.,	Ed., 1981 1975	ions 1981
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ARSENIC (As)

OSHA PEL: 0.5mg/M3 (organic compounds) ACGIH TLV: 0.2mg/M3

PHYSICAL DATA

Appearance: Silvery to black, brittle, crystalline and amorphous

metalloid

Melting Point: 814°C @ 36 atm

PHYSIOLOGICAL EFFECTS

Arsenic compounds can be absorbed into the body from industrial exposures, especially by inhalation and ingestion. Signs of toxicity in workers exposed to arsenic are dermal lesions, conjunctivitis, upper respiratory tract irritation, nausea, vomiting, peripheral neuritis and occasionally anemia. Arsenic in combination with promoters such as sulfur dioxide, metal oxide fumes and smoking has caused respiratory cancer.

**Arsenic has been recognized as a definite carcinogen by NTP and IARC.

REACTIVITY DATA

Arsenic is incompatible with bromine azide, dirubidium acetylide, halogens, palladium, zinc, platinum, NCl3, silver nitrate, Cr0 $_3$ and Na $_2$ O $_2$. When heated or on contact with acids or acid fumes, highly toxic fumes are emitted. Arsenic can react vigorously on contact with oxidizing materials.



COPPER

A GENERALINFORMATION					
TRADE NAME (COMMON NAME OR SYNONYM)		ASARCO	PRODUCT COL	E# -30-009,30-40-00	
topper to			o 30-60-145, 30-70-000 to 0-90-900,50-25		
CHEMICAL NAME					
Copper					
FORMULA			MOLECULAR	WEIGHT	
Cu		-		63.55	
ADDRESS (No., STREET, CITY, STATE AND ZIP	CODE)				
ASARCO 180 Maiden Lane					
New York, New York 10038	Phone: 212-510-2000				
CONTACT	PHONE NUMBER		ED DATE	REVISED DATE	
General Information - Department of Environmental	Sciences DAY 801-262-2	,450 L	8/ 4/83	8/ 4/83	
	NIGHT 801-943-1	754			
First Aid Information - (Dr.	NIGHT 415-777-2	213			
Transportation Emergencies -	CHEMTREC 800-424-9	300			

HAZARDOUSINGREDIENTS

MATERIAL OR COMPONENT	C.A.S. #	WT. % PERMISSIBLE AIR CONCENTRATION
ppper	7440-50-8	99.9+ 0.1 mg/cu.mfume 1.0 mg/cu.mdust
	1	
		DI OSHA DACGIH

CAN FIRST AID MEASURES

Inhalation:

Remove from exposure; place individual under care of physician. Symptomatic treatment such as bed rest and aspirin may afford some relief from chills and fever. Recovery is usually complete in 24 hours. If symptoms persist, consult a physician.

Induce vomiting in conscious individual and call a physician. Ingestion:

HAZARDSHNEORMATION HEALTH HALATION Cute copper exposure may cause irritation of the respiratory tract or metal fume fever with symptoms of fever, chills, nausea, chest tightness or metallic taste. NGESTION Copper is moderately irritating to the lining of the stomach and intestines. Possible mechanical irritation of skin. **FYES** Mechanical irritation MEDICAL CONDITIONS POSSIBLY AGGRAVATED Wilson's disease may be affected by copper exposure.

FIRE AND EXPLOSION

FLASH POINT NOT APPLICABLE

None reported

UNUSUAL CHRONIC TOXICITY

C AUTO IGNITION

*C FLAMMABLE LIMITS IN AIR (% BY VOL.)

TEMPERATURE

NOT APPLICABLE □OPEN CUP □ CLOSED CUP

NOT APPLICABLE

UNUSUAL FIRE AND EXPLOSION HAZARDS

PRECAUTIONS/PROCEDURES

FIRE EXTINGUISHING AGENTS RECOMMENDED

No specific agents recommended.

FIRE EXTINGUISHING AGENTS TO AVOID

No specific agents.

SPECIAL FIRE FIGHTING PRECAUTIONS

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire.

ENGINEERING CONTROLS

Local exhaust ventilation recommended if concentration of dust or fume is expected to exceed permissible exposure limits.

NORMAL HANDLING

STORAGE

AVOID storage near acetylene, chlorine or hydrogen peroxide. Do not store near halogenates of barium, calcium, magnesium, potassium, sodium or zinc.

SPILL OR LEAK

Any method which keeps dust to a minimum is acceptable. Vacuuming is preferred.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

Label signal word:

PERSONAL HYGIENE

Avoid inhalation or ingestion. Practice good housekeeping and personal hygiene procedures

CONDITIONS TO AVOID

• ::

NOT APPLICABLE

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR

MAY OCCUR

ASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS) If hazardous under 40 CFR 261, Subparts B and C, material must be treated or disposed in a facility meeting the requirements of 40 CFR 264 or 265. If non-hazardous, material should be disposed in a facility meeting the requirements of 40 CFR 257. CRA STATUS OF UNUSED MATERIAL: If discarded in unaltered form, material should be tested to determine fit must be classified as a hazardous waste for disposal purposes. Material should be made to the EPA Administrator on have a particular waste designated non-hazardous. CRAESTREPENCES SHA regulations for airborne contaminants 29 CFR 1910.1000 CGIH "Threshold Limit Values for Chemical Substances" (1981) VARD INFORMATION REFERENCES Documentation of the Threshold Limit Values," 4th Ed., ACGIH atty's Industrial Hygiene and Toxicology, Vol. 2A, 3rd Rev. Ed., 1981 FPA "Fire Protection Guide on Hazardous Materials," 6th Ed., 1975 Dangerous Properties of Industrial Materials", 4th ed., Sax, N.I., 1975	ENVIRONMENTAL	
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Security (hazards, precautions, first aid, etc.) is abbreviated. More detailed information is contained in references found in Section J.	NERAL ASARCO Products Book #Handbook of Chemistry and Physics, 57th Ed., # 1976-77, Weast, R.C., Editor, CF	C Inc.
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	Information (hazards, precautions, first aid, etc.) is abbreviated. More detailed information is contained in references found in Sect	ion J.
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ASARCT INCORPORTATED PROVIDES NO WARRANTIES EXPLEMENTATION OF ANNUASSUMES NO RESPONSIBILITY ACCURAGE OF COMPLETENCES OF THE DAYS CONTAINED REFERENCES.



SELENIUM

MATERIAL SAFET

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GENER	1.33	1-51	-1.7.5		51.
	J		3	5. I	

TRADE NAME (COMMON NAME OR SYNONYM) Selenium CHEMICAL NAME	ASARCO PRODUCT COL 50-60-400, 50- 60-60-100, 60-	-60-500, -60-200
Selenium		
FORMULA	MOLECULAR	WEIGHT
Se		78.96
ADDRESS (No., STREET, CITY, STATE AND ZIP CODE)		
ASARCO 120 Broadway New York, New York 10271 Phone: 212-669-1000		
CONTACT PHONE NUMBER	ISSUED DATE	REVISED DATE
General Information - Department of Environmental Sciences DAY 801-262-2	1/ 4/83	1/ 4/83
First Aid Information - (Dr. C. H. Hine) DAY 415-777-2 NIGHT 415-777-2 Transportation Emergencies - CHEMTREC 800-424-9	754 213 214	

AZARDOUS MGREED (1)

MATERIAL OR COMPONENT	C.A.S. #	WT. %	PERMISSIBLE AIR CONCENTRATIO
Gelenium	7782-49-2	99.7+	0.2 mg/cu.m.
			DE OSHA □ ACGIH

C FIRST AID MEASURES

Inhalation: Remove immediately from exposure; place individual under care of physician.

Ingestion: Induce vomiting in a conscious individual; immediately call a physician.

Skin: Wash thoroughly with soap and water.

Eyes: Immediately flush eyes with large amounts of water.

DE HAZABDENEORMAE DI

HEALTH

PHALATION conchial irritation (pneumonitis), gastrointestinal distress, and irritation of the upper spiratory tract may occur. Other symptoms include metallic taste, pallor, irritability cigue, and garlic odor of breath.

ESTION

Ingestion may cause gastrointestinal distress and other symptoms as above.

SKIN
Selenium fumes (SeO2) reacts with water or perspiration to form selenious acid which is corrosive to skin. Dermatitis may result. Some Se compounds may be absorbed through the skin.

EYES

Selenium dioxide (SeO2) entering the eye causes the development of a pink allergic-type reaction of the eyelids which may become puffy. Conjunctivitis may occur.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED

Diseases of the liver and kidneys.

UNUSUAL CHRONIC TOXICITY

Chronic exposure to selenium may result in increased dental caries.

FIRE AND EXPLOSION

FLASH POINT
OC AUTO IGNITION
TEMPERATURE
OPEN CUP CLOSED CUP
OC FLAMMABLE LIMITS IN AIR (% BY VOL.)
TEMPERATURE
NOT APPLICABLE
NOT APPLICABLE

UNUSUAL FIRE AND EXPLOSION HAZARDS

Finely divided dust may burn, if ignited, with evolution of corrosive selenium dioxide.

SEE PRECAUTIONS PROCEDURES

RE EXTINGUISHING AGENTS RECOMMENDED

lass D extinguisher: dry powder type

FIRE EXTINGUISHING AGENTS TO AVOID

None

SPECIAL FIRE FIGHTING PRECAUTIONS

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire.

ENGINEERING CONTROLS

Local exhaust ventilation is required for screening, heating, dumping, shoveling, or other operations where excessive airborne exposures may occur.

NORMAL HANDLING

STORAGE

AVOID storage near strong acids or bases.

SPILL OR LEAK

A clean-up procedure which minimizes exposure is required. Vacuuming is preferred. Place all material in closed containers. Do not use compressed air for cleaning. Use approved respiratory protection if possibility of dust/fume exposure exists.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

Label signal word:

PERSONAL HYGIENE

Practice good housekeeping and personal hygiene procedures. No tobacco or food in work area. Wash thoroughly before eating or smoking. Avoid ingestion or inhalation. Take a shower and change clothes at end of shift. Do not wear contaminated

PERSONALPROFECTIVE	MENTO	ELENIUM	CONTID	
RESPIRATORY PROTECTION				
NIOSH/MSHA approved respirator	for toxic dust and/or fume	•		
EYES AND FACE				
Chemical goggles, safety glassemay result.	es or face shield required :	for operations wh	ere eye contact	
HANDS, ARMS, AND BODY				
Gloves and protective clothing heated. Work clothing should n	are required if skin contact of the worn home.	et is appreciable	e or material is	
OTHER CLOTHING AND EQUIPMENT				
EG PHYSICAL DATASE				
MATERIAL IS (AT NORMAL CONDITIONS):	APPEARANCE AND ODOR			
LIQUID X SOLID GAS				
0	Dark red to blue gray, odd	orless		
BOILING POINT	SPECIFIC GRAVITY (H2O = 1)	VAPOR DENSI	TY	
684.9 C MELTING POINT 40-50 C (amorph); 217 C (cryst)	4.79	NOT APPL	CABLE	
		VAPOR PRESS	LIDE	
SOLUBILITY IN WATER (% by Weight)	рН	(mm Hg at 20°		
INSOLUBLE	NOT APPLICABLE	NOT APPL	ICABLE	
EVAPORATION RATE (Bulyl Acetate = 1) (Ether = 1)	% VOLATILES BY VOLUME (At 20° C)			
NOT APPLICABLE	NOT APPLICABLE			
NOT MIT BEORDED	NOT ATTECOME			
HARREACTIVITADATA				
STABILITY	CONDITIONS TO AVOID			
UNSTABLE TSTABLE	NOT APPLICABLE			
INCOMPATIBILITY (MATERIALS TO AVOID)				
Strong acids and bases, halogen gases, strong oxidizers, sodium, potassium, or nascent hydrogen may cause violent reactions or explosions.				
HAZARDOUS DECOMPOSITION PRODUCTS				
Under reducing conditions (i.e. presence of nascent hydrogen, h may be evolved. At temperature	, any strong acid or base p ighly toxic hydrogen seleni s above the melting point c	lus an active me de gas (H2Se, TL orrosive SeO2 ma	tal) or in the V=0.05ppm) y be generated.	

HAZARDOUS POLYMERIZATION CONDITIONS TO AVOID

MAY OCCUR WILL NOT OCCUR NOT APPLICABLE

EPA HAZARDOUS SUBSTANCE? YES NO	F SO, REPORTABLE QUAN	⁄ПТY:	• .	40 CFR 116-117
	-			
ASTE DISPOSAL METHODS (DISPOSER M f hazardous under 40 CFR 265 facility meeting the requir hould be disposed in a facil	. Subparts B and C.	material must b	pe treated or di	sposed in
CRA STATUS OF UNUSED MATERIAL:				40 CFR 261 11
f discarded in unaltered for aste due to listing in 40 CF ader specific circumstances, have a particular waste de	application can be	made to the EP	hazardous Aministrator	
DEFERENCES				
ERMISSIBLE CONCENTRATION REFERENCE SHA regulations for airborne		1910, 1000	· · · · · · · · · · · · · · · · · · ·	
	· ·	. 191011000		
AZARD INFORMATION REFERENCES				
Documentation of the Thresho atty's Industrial Hygiene an FPA "Fire Protection Guide o Registry of Toxic Effects of amilton, A. and Hardy, H., "In	ld Limit Values, # 4t d Toxicology, Vol. 2 n Hazardous Material Chemical Substances dustrial Toxicology	h Ed. ACGIH A. 3rd Rev. Ed. s." 6th Ed., 19 ," NIOSH, 1980.	¹⁹⁸¹	
VERAL		3.0 000, 131.		
•				
KARADDITIONACHNEORMATION				
information (hazards, precautions, first aid, etc	.) is abbreviated. More detailed in	nformation is contained in	n references found in Sec	ation J.
•			·.	
		•	•	
				The second second

MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305

Phone: (518) 385-4085 DIAL COM: 8*235-4085



NO. 74
TIN METAL/POWDER

Date September 1980

SECTION I. MATERIAL IDENTIFICATION					
MATERIAL NAME: TIN METAL/POWDER					
DESCRIPTION: Two allotropic forms: White tin (β)	and gray	tin (o	2)		•
OTHER DESIGNATIONS: Stamum, Sn. GE Material B10E9.	CAS #00	7 440 3	15		
MANUFACTURER: Available from several suppliers.					
OPOTION II INCOPRIENTO AND MATARO					2474
SECTION II. INGREDIENTS AND HAZARDS		*		AZARD	
Tin	1	>99	8-hr	TWA 2 m	×د¤/ga
********	.				
*Current OSHA standard , and ACGIH (1980) Intended Ch	hanges			Implant	
List for tin, tin oxide, and inorganic compounds	1.			7600 m	
(except SnH ₄), as Sn. STEL is for 4 mg/m ³ .					c Effect
				, Impla	
				_ 18 gm	
			Neop	lastic	Effects
SECTION III, PHYSICAL DATA					
Boiling point, deg C 2260-70 Specif:	ic oravi	tv			
Vapor pressure, 1610 deg C, mm Hg - 1 \alpha-for	rm (orsv	tin)			5.77
	rm (white				7.29
Solubility in water, g/100 cc Insoluble Atomic Melting point, deg C 231.9	weight				118.69
Melting point, deg C 231.9					
Appearance and Odor: Silver-white, ductile metal, also in powdered form.					
SECTION IV. FIRE AND EXPLOSION DATA					UPPER
Flash Point and Method Autoignition Temp. Flamma	bility I	imits]	n Air	0.19	_
630 C* 430 C7 (cloud) (dust layer)	dust clou	nd expl	sion	oz/it3	<u> </u>
Extinguishing Media: (Obtain detailed fire-fighting information from supplier.)					
When powdered tin is exposed to heat or ignition sour	rces it i	LS & BO	lerate	fire at	
explosion hazard. Particle size and dispersion in air determine reactivity.					
Firefighters should wear self-contained breathing apparatus.					
*98% of dust goes thru a 74 micron sieve. Sn dust cloud can be ignited by a 0.080 J					
spark. Ignition temperature in nitrogen, 900 C. Reaction temperature in CO2, 720 C.					
SECTION V. REACTIVITY DATA					
Stable in air, but powder will oxidize (especially in presence of moisture).					
Transformation to brittle gray (alpha) at temperatures below 18 C, transition is very					
slow and at -40 C crumbles to gray amorphous powder.					
Incompatible with halogens, cupric nitrate, sodium and potassium peroxide. Can produce					
incandescence with sulfur.					
Reacts slowly with cold dilute HCl, dilute HNO3, hot dilute H2SO4; readily with con-					
centrated HCl, aqua regia. Reacts very slowly with acetic acid. Oxidizing salt solutions that dissolve tin are potassium peroxysulfate, ferric chloride					
Centrated RCI, aqua regia. Reacts Very slowly with acetic acid. Oxidizing salt solutions that dissolve tin are potassium peroxysulfate, ferric chloride and sulfate, and aluminum and stannic chlorides. Metal normally has a protective thin film of stannic oxide which thickens as the temperature is called.					
		4-6 464			
etal normally has a protective thin film of stannic	oxide Au	icu fur	ckens	as the	temper-

o		74

SECTION VI. HEALTH HAZARD INFORMATION

TLV (See Sect. II) 2 mg/m³

Tin is poorly absorbed from the alimentary canal. Completely harmless to rats in oral dosages. Exposure to dust/fumes may cause a mild benign pneumoconiosis. Early diagnosis is possible with a chest x-ray since tin is readily radio-opaque. Tin deposits in lungs may not alter function; and reports show no massive fibrosis, disability, or special complicating factors from dust exposures.

FIRST AID:

Eve Contact: Flush with running water for 15 minutes, including under eyelids.

Skin Contact: Wash area with soap and water.

Inhalation: Remove to fresh air. Restore or support breathing as required.

Ingestion: Induce vomiting, seek medical attention.

Seek medical help for further observation, support and treatment.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Notify safety personnel of powdered spills. Remove sources of heat or ignition. Keep airborne dust at a minimum.

Valuable as scrap metal.

<u>DISPOSAL</u>: Recovered particulates from an electrostatic precipitator can be recycled.

Waste slag (inert and insoluble) may be buried in an approved landfill. Maximum concentration of tin discharge to waterways is 2.0 ppm.

Follow Federal, State, and Local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation to meet TLV requirements in the workplace where tin powder is used or fume is generated from heated tin.

Avoid eye contact by use of chemical safety goggles where dusty conditions occur. Eye washing stations and washing facilities should be readily accessible.

Provide employee training in the correct use of personal protective equipment, especiall dust masks, and in the case of fumes, proper canister or air-supplied respirators. Respirators should be available for nonroutine or emergency use above the TLV.

Provide preplacement and periodic medical examinations for those regularly exposed to tin, and tin compounds, with emphasis directed toward chest x-ray. See Sect. II.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in a dry, well-ventilated, low fire risk area. Avoid heat and ignition sources. Use good housekeeping practices to prevent accumulation of dust and follow sound cleaning techniques that will keep airborne particulate at a minimum. Avoid breathing dust or fume. Minimize skin contact.

Storetin powder in a closed container.

DATA SOURCE(S) CODE: 2,4-7,9-12,40-42

Antigeness as to the suitability of information harden for purchaser's purposes are security purchaser's responsability. Therefore, although researched care has been taken in the properties of such information, Coneral Electric Company autunds no warrantees makes no representations and assumes no responsability as to the accuracy or suitability of such information for application to partheser's fatenaded purposes or for consequences of its size.

APPROVALS: MIS J.M. Nils

Industrial Hygiene and Safety

Dh 10-9-80

MEDICAL REVIEW:

10/22/80

TIN (Sn)

OSHA PEL: 2mg/M³ (inorganic)

ACGIH TLV: 2mg/M³ (metal, oxide, inorganic)

PHYSICAL DATA

Appearance: Crystalline metallic element

Melting Point: 232°C

PHYSIOLOGICAL EFFECTS

Chronic inhalation of tin oxide dust or fume leads to a benign pneumoconiosis without symptoms of interference with pulmonary function.

REACTIVITY DATA

Tin is incompatible with chlorine and turpentine.

MATERIAL SAFETY DATA SHEET

Sheet H

I. MATERIAL IDENTIFICATION

Manufacturer's Name: Alpert & Alpert Iron & Metal Inc. Telephone Number:213-265-4040 Address: 1820 South Soto Street, Los Angeles CA 90023

Material Name: Lead Scrap

II. BAZARDOUS INGREDIENTS

	CAS Number	·	OSHA 8-hr Tw	ACGIH 8-hr TWA (1984-85)	ACGIH STEL (1984-85)
Lead	(7439-92-1)	<u>≥</u> 59	0.05 mg/m	3 0.15 mg/m ³	0.45 mg/m ³
Tin	(7440–31–5)	< 25	2 mg/m	3 2 mg/m ³	4 mg/m ³
Antimony	(7440-36-0)	≤ 24	0.5 mg/m	3 0.5 mg/m ³	
Arsenic	(7440-38-2)	< 4	0.01 mg/m	3 0.2 mg/m ³	
Copper	(7440-50-8)	≤ 3	(Dust) 1 mg/m (Pume) 0.1 mg/m	3 1 mg/m ³ 3 0.2 mg/m ³	2 mg/m ³
Silver	(7440-22-4)	<u> </u>	0.01 mg/m	3 0.1 mg/m ³	
Cadmium	(7440-43-9)	< 1	(Dust) 0.2 mg/m (Pume) 0.1 mg/m	3 0.05 mg/m ³ 0.05 mg/m ³ •	0.2 mg/m ³

Ceiling Limit

Note: antimony trioxide, arsenic, and cadmium have been identified as potential human carcinogens. See Section VI, Health Hazard Data.

III. PHYSICAL DATA

Melting Point (of lead): 327° C Specific Gravity: 9.73 - 11.36 Boiling Point (of lead): 1740° C Vapor Pressure: 1 mm Hg 0 973° C (of lead) Solubility in water: insoluble

Appearance: dependent on composition of scrap metal, processing method used, and existing protective coatings.

(9/85)

IV. FIRE AND EXPLOSION DATA

Flash Point: information not available
Autoignition Temperature: information not available

Solid, massive form of material is not combustible under ordinary fire conditions. Fire and explosion hazards are moderate when material is in the form of dust and exposed to heat or flames, chemical reaction, or contact with powerful oxidizers.

Fire Extinguishing Methods: Use special mixtures of dry chemicals. Do not use water or moist sand. Fire fighters should wear self-contained breathing apparatus and protective clothing.

V. REACTIVITY DATA

Massive material is stable at ordinary temperatures, but dust presents moderate fire and explosion hazards. Material may be incompatible with acids, bases, and oxidizers. Molten scrap metal may react violently with water. For additional information, users should consult data sheets on individual component elements.

VI. REALTH HAZARD DATA

TLV: see Section II.

Primary Routes of Entry: ingestion of dust, inhalation of dust or fume.

Exposure to the massive form of lead scrap presents few health hazards in itself. However, normal handling of scrap may result in generation of dusts containing the component elements, and inhalation or ingestion of these dusts may present potentially significant health hazards. Thermal cutting and melting of lead scrap may produce fumes containing the component elements, and breathing these fumes may also present potentially significant health hazards. Special precautions should be taken if scrap is contaminated; see Section IX.

Prolonged inhalation of lead fumes or dusts, or ingestion of lead compounds, can result in lead poisoning. Symptoms include abdominal pain or colic, constipation, nausea, joint and muscle pains, and muscular weakness. Severe cases of overexposure may lead to central nervous system disorders, characterized by somnolence, stupor, and ultimately death.

Overexposure to tin dusts may cause irritation of the skin and mucous membranes, and may result in a benign pneumoconiosis (stannosis).

Overexposure to arsenic fumes or dusts can lead to arsenic poisoning, characterized by nausea, vomiting, and diarrhea. Prolonged overexposure can lead to liver and kidney damage, central nervous system disorders, and ultimately death. Arsenic can cause skin irritation and allergic reactions.

Overexposure to cadmium fumes or dusts may cause chest pains, shortness of breath, lung changes, and pulmonary edema, ultimately leading to death. Cadmium may also cause damage to the liver and kidneys.

Pumes of copper may cause metal fume fever with flu-like symptoms. Copper may cause skin and hair discoloration; silver may cause a greyish pigmentation of the skin, and can cause irritation of the skin and mucous membranes.

Overexposure to antimony may cause gastrointestinal upset and various nervous complaints, such as sleeplessness, irritability, and muscular pains.

Antimony trioxide, arsenic, and cadmium have been identified as potential cancer-causing agents.

FIRST AD:

Eye Contact: Plush well with running water to remove particulate. Get medical attention.

Skin Contact: Srush off excess dust. Wash area well with soap and water.

Inhalation: Remove to fresh air. Get medical attention.

Ingestion: Seek medical help if large quantities of material have been ingested. (Ingestion of

significant amounts of scrap metal is unlikely.)

VII. SPILL PROCEDURES

Mo special precautions are necessary for spills of bulk material. If large quantities of dust are spilled, remove by vacuuming or wet sweeping to prevent heavy concentrations of airborne dust. Clean-up personnel should wear respirators and protective clothing.

Scrap metal can be reclaimed for reuse. Follow Federal, State, and Local regulations regarding disposal.

VIII. SPECIAL PROTECTION INFORMATION

Use general and local exhaust ventilation to keep airborne concentrations of dust or fume below the TLV. Employees should wear MSHA or NIOSH approved respirators for protection against airborne dust or fumes. Full protective clothing should be worn by workers exposed to heavy concentrations of dust, and showering should be required before changing into street clothes. Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis.

Approved safety glasses or goggles should be worn when working with dusty material. Safety eyewash stations should be provided in close proximity to work areas.

Pre-employment and periodic medical evaluations should be provided. Attention should be directed toward skin, eyes, respiratory tract, blood, kidneys, pulmonary function, and neurologic health. Chest X-rays should be included if symptoms are present.

Food should not be consumed in the work area.

Special attention is drawn to the requirements of the Occupational Safety and Health Administration standards for lead (29 CFR 1910.1025) and arsenic (29 CFR 1910.1018). State OSHA programs will also have similar requirements.

Special precautions should be taken if scrap is contaminated; see Section IX.

IX. SPECIAL PRECAUTIONS

Use good housekeeping practices to prevent accumulations of dust and to keep airborne dust concentrations at a minimum. Avoid breathing dust or fumes.

Store material away from incompatible materials, and keep dust away from sources of ignition.

This material is potentially contaminated with coatings, paints, and other contaminants. If the material is contaminated, special procautions (such as process control and personal protective equipment, appropriate to the nature of the suspected contaminants) should be taken to avoid resulting exposures when handling, cutting (mechanical or thermal), and/or melting.

Prepared by: Institute of Scrap Iron and Steel (ISIS) in consultation with JRB Associates

Date Prepared: September 1985

Page 3 of 3

(9/85)

APPENDIX D

RE: SECTION 8

INSPECTION LOG SHEETS

GNB, INC. HAZARDOUS WASTE MANAGEMENT INSPECTION LOG

Date	Time	Inspector
		Observations/Repairs/Remedial Action (give dates)
MONITORING E	QUIPMENT	
Sampling Equipme	ent	
	(Q)	
**********	(Q) (Q)	
	(V)	
Monitoring Wells		
MW1	(M)	
MW2	(M)	
MW3	(M)	
MW4	(M)	
MW5	(M)	
MW6	(M)	
MW7	(M)	
MW8	(M)	
MW9	(M)	
MW10	(M)	
MW11	(M)	
MW12	(M)	
PW1	(M)	
PW2	(M)	
MW13	(M)	
MW14	(M)	
MW15	(M)	

SAFETY AND EMERGENCY EQUIPMENT

Communications (Q)	
(Telephones, Walkie Talkies)	
Fire (M)	
Extinguishers	
Fire Hose Reels (M)	
Medical Kits(M)	
Emergency Showers (M)	
Eyewash Stations (M)	
Facility Alarm(M)	
()	
SECURITY DEVICES/SYSTEMS	
5 '	
Signs(SA)	
Lighting (Q)	
(Fixed and Portable)	
Fence Barriers(Q)	
<u>STRUCTURES</u>	
STRUCTURES	
Floors, walls,	
roofs (W)	
(**/	
Drains (W)	
YARD AREA	
Stormwater	
trenches(W)	
BATTERY UNLOADING AREA	
Sump, associated	
piping(D)	

GNB, INC. HAZARDOUS WASTE MANAGEMENT INSPECTION LOG

Date	Time	Inspector
<u>RMPS</u>		Observations/Repairs/Remedial Action (give dates)
Flue dust slurry tanks(D)		
Mud tanks(D)		
Acid transfer pumps and piping(D)		
Acid collection sumps and trenches(W)		
All sump pumps(W)		
Overflow alarms(W)		

D=Daily W=Weekly M=Monthly Q=Quarterly SA=Semi-annually

Note: See Table 8.1 for explanation of items for which to inspect.

an the Extended, which Comp 1 8600 K Marie !! ExyEnde / w 76 Rond Parties 4 Interral 776 Westus 730 16 1/2 Lone Plast Scent Container Workly Common INSter. CALPETTE STAR INCOME 103 1620 138 - ENTTO 103 - 103 1600 1 5000 1 BATTOWNED IN S. BATTOWNED SAMPLE Kom AXON " 121 Battown Ratt. Batt. " 108 Test SOLTH FOURT AKEN BATTORIO 10 State Barre MISS. BATT RAWT SCARP Plant Scane " Shot Cheef AKEA" BATTER BATTERIE MATTERIAL BATTERIET 109 106 100 401 , i ن

APPENDIX E RE: SECTION 9 RESPIRATORY PROTECTION PROGRAM HAZARD COMMUNICATION PROGRAM

RESPIRATORY PROTECTION PROGRAM

GNB INCORPORATED

RESOURCE RECYCLING DIVISION

LOS ANGELES, CA

OBJECTIVES

To set forth guidelines outlining acceptable respirator use practices in accordance with 29 CFR 1910.134.

To supplement engineering controls and further insure the employee is exposed to the minimum possible levels of lead dust and fume, cadmium, arsenic and other airborne contaminents.

To establish appropriate training programs for all employees in respirator usage.

PROGRAM ADMINISTRATOR

Management has designated the Training Director to be responsible for the overall respiratory protection program at this facility. This person has been delegated authority by management to make decisions and implement changes in the respirator program. The environmental technician and employee services personnel are responsible for the day-today respirator program.

This includes issuing respirators, maintaining program records, conducting fit tests, ordering respirator supplies, conducting respirator usage assurance surveys, and solving day-to-day problems in this program.

Training employees in proper respirator use.

In addition, the environmental technician is responsible for monitoring containment levels in the workplace.

EMPLOYER RESPONSIBILITY

The Company shall provide approved respirators to protect the health of the employee when such equipment is found to be necessary.

The Company shall supervise the proper use and wearing of respirators and shall perform workplace surveillance daily to insure the program is functioning properly.

The Company shall provide each respirator user the opportunity to check the fit of his/her respirator using a quantitative method from which the protection factor is calculated for the individual or the OSHA approved qualitative fit test for negative pressure half-masks.

EMPLOYEE RESPONSIBILITY

The employee shall use the respirator, in accordance with the instructions received, for the assigned usage time.

EMPLOYEE RESPONSIBILITY CONT'D.

The employee shall keep his/her respirator free of unnecessary lead dust contamination by placing it in a plastic bag during lunch and breaks. Wipes are provided to clean the face piece as needed.

The employees shall guard against damage to the respirator and report any malfunction to their supervisor immediately:

The employees shall be responsible for the replacement cost in the case that their respirator is lost.

EQUIPMENT SELECTION

On the basis of exposure to Pb dust and/or fume, the following respiratory protection shall be used.

1. Not in excess of 0.5 mg/M³ (10 X P.E.L.)...

Half mask, air purifying respirator equipped with high efficiency filters.

2. Not in excess of 2.5 mg/M³ (50 X P.E.L.)...

Full face piece, air-purifying respirator with high efficiency filters.

3. Not in excess of 50 mg/M³ (1000 X P.E.L.)...

Any powered air purifying respirator with high efficiency filters. A P.A.P.R. will be provided to an employee who chooses one and will provide adequate protection.

All respirators provided will be those approved for lead dust, fume, and mist and cadmium, arsenic or other airborne hazards by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (NIOSH) under provisions of 30 CFR Part 11.

The following respiratory equipment is available:

- MSA combination cartridges NIOSH and MSHA approved. Meets OSHA requirements. Approval No. TC-23C-153.
- Filter cartridge MSA
 Type "H" NIOSH and MSHA approved. Approval No. TC-21C-135.
- 7. Willson permissible respirator Filter R-12 - MSHA-NIOSH approval No. TC-21-C-142

Respiratory Protection Program Page 3

EQUIPMENT SELECTION CONT'D.

- 4. North respirator Model 75075, 7507M, 7507L, 77075, 7707M and 7707L. MSHA-NIOSH approval No. TC-21C-203.
- 5. 3M respirator
 Dual cartridge, half mask respirator
 Face piece, NIOSH-MSHA approved. No. TC-23C-447
- Willson basic face piece NIOSH-MSHA - Approval No. TC-23C-710
- 7. 3M High efficiency filter NIOSH-MSHA approved. No. TC-21C-215
- 8. 3M Acid gas cartridge NIOSH-MSHA approved. No. TC-23C-443

A record will be made when the respirator has been issued and the reason for the issuance.

RESPIRATOR USERS

- 1. Any employee when tested for airborne lead, cadmium and/or arsenic showing an exposure over the permissible exposure limit (P.E.L.) must wear mandatory respiratory protection.
- 2. Any employee on Medical Removal Protection.

WORK AREA SURVEILLANCE

The Pb exposed work areas of the plant are routinely sampled for airborne lead concentration following the guidelines set forth in the OSHA Lead Standard. Where it is determined that exposure conditions have changed, the affected (exposed) individuals are re-evaluated to insure their respiratory protection is still adequate. As specified in 1910.1025 f 4 (iii) employees who wear respirators shall be permitted to leave work areas to wash their face and respirator face piece when necessary to prevent skin irritation.

USER TRAINING AND MEDICAL EVALUATION

The technician or supervisor shall instruct the employee in proper use of respirators and shall train the employee concerning the proper fit and adjustment of the respirator.

Respiratory Protection Program Page 4

USER TRAINING AND MEDICAL EVALUATION CONT'D.

Respirator users shall be trained on the proper fit and adjustment of the respirator at least annually.

The prospective respirator user is screened for his/her ability to use a negative pressure respirator through physical examination by the Company physician. Tests such as pulmonary function may be used by the physician in evaluation.

If the employee's or the prospective employee's physical characteristics preclude the use of either the negative or powered air-purifying respirators, the Company shall not allow them to work on jobs on which respirator use is required.

Respirators shall not be worn when uncorrectable physical conditions prevent a good face seal. Such conditions may be the absence of teeth or of dentures (one or both). Facial hair affecting the seal of the mask to the face must be removed.

QUALITATIVE (PRESSURE TEST) TRAINING

After determining the employee's ability to wear a negative pressure respirator in a work situation, the employee is assisted in selecting from three sizes the most comfortable fitting respirator. From here, the employees are trained to conduct a proper fit test on themselves. The proper fit shall be determined by pressure tests:

- Positive pressure test: Close the exhalation valve and exhale gently into facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air in the seal. For most respirators, this method of testing requires that the wearer first remove the exhalation valve cover and then carefully replace it after the test.
- 2. Negative pressure test: Close off the inlet openings of the cartridges by covering with the palm of the hands, inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is probably satisfactory.

After these test methods are demonstrated the employee is asked to practice them several times. The technician observes the employee, correcting him/her should need be. To assure proper protection, the respirator will be tested for fit using the banana oil, irritant smoke method, or saccharin solution.

The attached employee respirator use and fit test record will be used with each employee at the time of testing. All qualitative testing for half mask air purifying masks will be done every six months in conformance with 29 CFR 1910.1025 Appendix D- "Qualitative Fit Test Protocols".

QUANTITATIVE FIT TESTING

Quantitative Fit Testing will be performed every six months for those employees required to wear a negative pressure full facepiece mask.

The employee is briefed on the fact that they are being assigned a lettered respirator for their exclusive use. Their responsibility for maintaining the respirator in a plastic bag during lunch and rest periods is explained as well. Each employee is briefed on the cleaning procedure and informed that they shall receive a clean, disinfected respirator each work day.

A statement covering all the above topics is then read and signed by the employee. (Attached) By affixing their signature to this statement, the employee indicates that he/she understands that he/she is required to, and agrees that he/she will check for a good facepiece fit daily, prior to entering the lead exposed work areas of the plant.

RESPIRATOR USE SURVEILLANCE

The respirator program is evaluated for its effectiveness by two processes. A weekly respirator use surveillance is performed by the technician. Employees who are not in compliance are reported to their supervisors for counseling. The other form of evaluation involves the supervisor who is responsible to insure that all of his employees are in compliance with the respirator protection program.

CLEANING AND STORAGE

)

Employee services is responsible for washing and maintaining the respirators and respiratory protective devices in the program.

The respirator cleaning/repair is performed in Plant Services.

The basic procedures are as follows:

- 1. All respirator components are dismantled and placed in the respirator washing machine the filters being set aside.
- 2. The respirators are allowed: to air dry on the top rack of the washer.
- 3. All valves, headstraps, etc., are inspected and replaced if found to be defective.
- 4. The lettered facepieces are assembled with their matching lettered filter cartridges the cartridges are replaced whenever necessary and any time an employee indicates experiencing increased breathing resistance as required in the OSHA Lead Standard.

Respiratory Protection Program Page 6

CLEANING AND STORAGE CONT'D.

5. The respirators are placed in a plastic bag and sealed. The plastic bag is marked with the employee's name and respirator number.

BACHOUSE PROCEDURES

When the baghouse needs inspection or repair, two people are needed. One person is stationed at the door while another person inspects, repairs, etc. At all times they are to wear supplied air respirators. Air lines are continuously monitored to insure acceptable quality air.

USE AND LIMITATIONS OF RESPIRATORY PROTECTION

Half facepiece respirators can only be used in areas where there is sufficient oxygen content to sustain life and must not be used in areas such as chemical tanks or any other confined spaces. Half facepiece respirators do not supply oxygen and are only as good as the fit and efficiency of the facepiece and filters which are used.

When situations arise which require entry into a confined space (baghouse or chemical tank) supplied air full facepiece respirators must be used or a SCBA (Self Contained Breathing Apparatus). Additional personnel should be present on the outside of the confined space equipped with a SCBA and means of communication with the personnel conducting the operation at all times.

When using a half facepiece respirator, the filters and approvals should be reviewed by the user and only approved respirators for the chemical or substance to be encountered should be used. If there is any leakage or problems arise with the use of any of the aforementioned respirator systems, steps should be taken to evacuate to a safe area immediately.

PACIAL HAIR AND RESPIRATORS

The Federal Occupational Safety and Health Act is very specific on employee facial hair when it comes to respirators. Section 1910-134 specifically prohibits the growth of facial hair if it affects the fitting of a respirator. In order for the respirator to be effective there must be a good seal between the face and the mask. The growth of hair in that seal will affect the fit. Therefore, it is GNB's policy that facial hair affecting the seal of the respirator be removed.

Respiratory Protection Program Page 7

THE EMPLOYEE RESPIRATOR USE AND FIT-TEST RECORD

The Employee Respirator Use and Fit-Test Record shall be used every six months in fit testing and shall be reviewed with employees so they understand their responsibilities in respiratory protection. Employees will sign this statement and agree to follow the proper procedures.

Respirator Protection Program Revised 1/17/83 Page 2

- 4. Approved Respirator(s).
 - A. Negative Pressure, Air-Purifying:
 - 1.) Half Face:

MSA Comfo II: Size - small, medium and large.
MSA Belt Mount Comfo II: Size - small, medium and large.
Norton 7500: Size - medium and large.
Willson 1200: Size - medium and large.

2.) Full Face:

MSA Ultra-Twin: Size - standard Norton 7600: Size - standard

- B. Positive Pressure Air Purifying:
 - MSA P.A.P.R. with half-face (Comfo II)
 Facepiece: Size small, medium and large.
 - 2.) MSA P.A.P.R. with ultraview face piece standard size.
 - 3.) 3-M Whitecap W260; vehicle mounted P.A.P.R.
- C. Positive Pressure Air Supplied:
 - 1.) MSA Leadfoe Airline Repsirator.
 - 2.) 3-M Whitecap W-260 and W-880.
 - 3.) Scott "Zephyrair" Mask.
 - 4.) Norton 85200 Fullface.
 - 5.) MSA Ultraview Airline Respirator.
- D. Self-Contained Respirators: Any pressure-demand system with 30 minute or longer air supply.
- E. Cartridges for Air Purifying Respirators:
 - 1.) MSA: Type H (Dust, fume, mist, radionuclide).

 Type GMB-H (Dust, fume, mist, radionuclide, and acid gas).

 Type GMA (Organic vapor).
 - 2.) Norton: 7500-8 (Highly toxic particulates).
 7500-82 (Acid gas and highly toxic particulates).
 7500-1 (Organic vapor).

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- E. Cartridges for Air Purifying Respirators Cont'd.:
 - 3.) Willson: R35 (Acid gas)

R-12 - (Highly toxic particulate)

R-25 - (Organic vapor)

- 5. Respirator and Cartridge Selection.
 - A. Selection is based upon the average normal exposure the user would be faced with in combination with the protection factor of the respirator. Exposure does not take into account the ability of the respirator to remove contaminants. Upset conditions are not used to calculate the normal exposure.
 - 1.) The protection factor is the ratio of contaminants outside to the contaminants inside the respirator. The higher the ratio, the more effective the respirator. For example:

For a $\frac{1}{2}$ face: Conc. outside = $\frac{500 \text{ mg/M}^3}{\text{Conc. inside}}$ = P.F. of 10

- 2.) Protection factors take into account face to facepiece leakage. Their value lies in predicting personal exposure from a known concentration of contaminant outside the respirator.
- 3.) By using known average normal concentrations of lead in air and minimum portection factor values, a realistic exposure guide can be developed. This will prevent over exposure to lead. By using the 50 mg/M³ permissible exposure level for lead as the standard, the protection factors can predict the maximum safe concentration for the given respirator.

For example: $\frac{1}{2}$ face with P.F. of 10 X PEL of 50 =

500 mg/ M^3 maximum exposure for $\frac{1}{2}$ face respirator.

B. Protection Factors:

Respirator Type	Minimum Protection Factor
Half-Face Air Purifying	10
Full-Face Air Purifying	50
Powered Air Purifying	1000
Positive Pressure Air Supplied	1000
Self Contained Breathing	1000

- 5. Respirator and Cartridge Selection Cont'd.
 - C. Maximum Concentration (mg Pb/M^3) Versus Respirator.

		,	ΔTR	PURIFY	INC		
	IFICATIONS WITH RE IN RANGE	RANGE mg Pb/M ³	Half- Face			Air- Line	
Baghousem Refining- Maintenand Material	l Classifications an All Classifications ce-All Classificati PrepAll Classific vices, Sample Lab,	ions 0-500 cations	x	x	x	x	x
Reverb Fur	nace - All ssifications rnace - All ssifications	500-2500	0	x	X	x	X
Clean Out Clean Out	of Ventilation Duc of Metallurgical D of Blast Riser of Baghouses	ts Ducts > 2500	, o	0	0	X	. x
AREA WORKE RMPS - All Refinery - Oxide - Al	Selection Chart: D/JOB CLASSIFICATI Classifications All Classification 1 Classifications rices - All Classif	ns ·	AIR Hig (Du R	-PURIFY	-	RIDGE culate	
Maintenanc	e - Garage Mechani uck Drivers	С		p10 001	01		
Blast Furn Reverb Fur Baghousema Material P Maintenance	ance n reparation All Cl	ications ·	in gas	combina	ic partition wit	h acid	
Spray Pain	ting/Baghouseman, rehouse & Maintena	nce	Org	nnic va			

- 6. Respirator Fit Testing.
 - A. Before entering the work environment, every regular respirator wearer must receive respirator fit instructions including demonstration and actual practice in how the respirator is worn, how to adjust it and how to check if the respirator fits properly.

Respirators shall not be worn whenever conditions prevent a good facepiece to face seal. Such conditions include:

- 1.) Improperly sized face mask.
- 2.) Growth of hair, beard, mustaches, sideburns and whiskers that project under the facepiece to prevent a good face seal. It is imperative that clean smooth skin be in contact with the respirator scaling surface.
- 3.) Temple pieces of eye glasses that project under the facepiece. Wearing of contact lenses in contaminated atmospheres shall not be allowed. Systems have been developed
 for mounting corrective lenses inside full facepiece respirators. Consult the Safety Director for further information one these systems.
- 4.) The absence of one or both dentures.
- 5.) The absence of a respirator strap or improper adjustment of respirator straps.
- B. There are two common pressure tests which must be taught to each respirator user. When performed every time the mask is donned, they will insure that he has the respirator adjusted on his face properly. These two tests, negative and positive pressure, are the first steps to be taken in properly fitting a respirator to the face. They indicate gross leaks and are to be used in conjunction with other more efficient tests.
 - 1.) Positive Pressure Test Close the exhalation valve with the heel of your hand and gently exhale into the facepiece. The fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal.
 - 2.) Negative Pressure Test Close the inhalation valve by placing the palm of your hand over the cartridges. Inhale gently so that the facepiece collapses slightly and hold your breath for ten seconds. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the fit of the respirator is considered satisfactory.

C. Two additional qualitative fit tests are available for testing the facepiece-to-face seal. They are the banana oil (isoamyl acetate) test and the irritating smoke test. Both tests require some inexpensive equipment available from our local suppliers.

BANANA OIL/IRRITATING SMOKE TEST SCHEDULE

1. All new or rehired employees Prior to entering the work-place. 2. All employees who are required to regularly wear respirators. Semi-annually in conjunction with quantitative fit test. 3. Any employee who requires substitution of a different approved respirator. At the time of substitution.

- 1.) Banana oil (isoamyl acetate) test. EQUIPMENT:
 - a.) A supply of banana oil (fit test ampules or bulk isoamyl acetate and an applicator).
 - b.) A supply of organic vapor cartridges for the type of respirator used during the test.

PROCEDURE:

- a.) Select the tye of respirator that the employee regularly uses and fit it with organic vapor cartridges.
- b.) Review the respirator parts and functions with the employee.
- c.) Have the employee put on and adjust the respirator. This should be reviewed with the employee and supervised by the person conducting the test.
- d.) Have the employee conduct a positive and negative pressure test.
- e.) Upon successful completion of both tests, the employee is to be told that he will smell an odor and that he must identify the odor. (This reverse technique should eliminate cheating.)
- f.) Have the employee sit in a chair and instruct him to close his eyes.
- g.) The ampule is broken to allow the banana oil odor to wet the sorbent material. Keep the ampule or applicator in a closed plastic bag whenever it is not being utilized to conduct a test.

- 1.) Banana oil (isoamyl acetate) test cont'd.
 - h.) The ampule or applicator is then waved close to the face, following a circuitous path that traverses the facepiece to face seal border of the respirator. DO NOT TOUCH THE RESPIRATOR OR FACE WITH THE AMPULE OR OIL!!!!!!!
 - i.) The respirator wearer should conduct a series of exercises during the test (e.g. moving head back and forth, up and down) to simulate actual wearing conditions.
 - j.) If the acetate smell is identified, the respirator must be repositioned and adjusted.
 - k.) If after the adjustments have been made, the wearer can still smell the acetate, a different respirator must be used.
 - 1.) Once there is a successful test, the respirator is fitted with the cartridges/filters approved for the specific job classification of the employee.
 - m.) The test procedure is documented on both the Respiratory Fit

 Test and Training Documentation Record (IN-5) and the respiratory protection equipment documentation record (IN-7) for
 each employee tested. Any subsequent fit testing (e.g. change
 in respirator or semi-annual fit test) shall be documented on
 the Respiratory Fit Test & Training Documentation Record (IH-5).
 - n.) Under NO circumstance shall an employee be permitted to work in an exposure area unless a successful qualitative fit test is obtained.
 - o.) The testing procedure should take approximately 10-12 minutes per employee.
- 2.) Irritating Smoke Test.

The materials found in ventilation smoke tubes (ethylenediamine and acetic acid) sublime upon exposure to moist air to produce smoke composed of internally irritating fine particles. Applied with caution, the smoke tubes can be used to conduct an excellent qualitative fit test.

EQUIPMENT:

- a.) MSA Ventilation Smoke Tube Kit MSA Data Sheet 08-00-20 (ordering Catalog Kit 458481; TUBES package of 12, 458480).
- b.) A supply of high efficiency particulate cartridges for the type of respirator used during the test.

2.) Irritating Smoke Test Cont'd.

PROCEDURE:

- a.) Select the type of respirator that the employee will regularly use and fit with high efficiency cartridges.
- b.) Review the respirator parts and functions with the employee.
- c.) Have the employee put on and adjust the respirator. This should be reviewed with the employee and supervised by the individual conducting the test.
- d.) Have the employee conduct both a positive and negative pressure test.
- e.) Upon successful completion of the positive and negative pressure test, the employee is informed of the irritating nature of the smoke. Instruct the employee to signal (by waving hand) when the smoke is smelled.
- f.) Have the employee sit in a chair and instruct him/her to close his/her eyes.
- g.) Smoke is blown toward the respirator from a distance of approximately two feet. If no leakage is detected, the smoke tube is moved toward the subject.
- h.) Due to the highly irritating nature of the smoke, one must be ALERT for any sign that the smoke has penetrated the mask.
- i.) The respirator wearer should perform a series of exercises during the test (e.g. moving head back and forth, up and down), to simulate actual wearing conditions.
- j.) If no smoke is detected, the fit test is considered to be satisfactory.
- k.) If the irritating smoke penetrates the respirator, the respirator must be repositioned and adjusted or exchanged for a suitable fitting respirator.
- Once there is a successful test, the respirator is fitted with the cartridges/filters approved for the specific job classification of the employee.
- m.) The test procedure is documented on both the Respirator Fit Test and Training Documentation Record (III-5) and the Respiratory Protection Equipment Documentation Record (see III-7). Any subsequent fit testing (e.g. change in respirator or semi-annual fit test) shall be documented on the Respirator Fit Test and Training Documentation Record (III-5).

2.) Irritating Smoke Test Cont'd.:

PROCEDURE:

- n.) Under NO circumstance shall an employee be allowed to work in an exposure area unless a successful qualitative fit test is obtained.
- o.) The testing procedure should take approximately 10-12 minutes per employee.

3.) Quantitative Fit Testing:

The qualitative fit test determines whether the respirator leaks whereas the quantitative fit test determines the degree of leakage. The quantative fit test is required by the new OSHA lead standard. the standard requires that GNB Batteries Inc., Metals Division must provide a quantitative fit test at the time of initial fitting and at least semi-annually thereafter for each employee wearing negative pressure respirators.

The quantitative fit test is used to select facepieces that provide the required protection. By conducting the quantitative fit test, each respirator can be given a protection factor that will assure the employee's potential environmental exposure is less than the permissible exposure limit (PEL). Presently, CNB Batteries Inc., Metals Division is using the G.C.A. RAM-1 as a quantitative fit testing machine.

The quantitative fitting is conducted in the plant's Laboratory Building where room dust concentrations are stable. The fitting procedure uses a facepiece which has been modified by the insertion of a probe into the front bottom half of the facepiece, which is then sealed to the facepiece to prevent leakage around the probe's periphery — to this test facepeice is mounted high efficiency filter cartridges. A G.C.A. RAM-I (real-time acrosol monitor) is used to measure the dust within and outside the facepiece — it is capable of sensing mass concentrations in the range of 1 ug/m³ to 200 ug/m³. The G.C.A. unit uses the sensing principle of near-forward scattered light, scattered over the angular range of 45-95 degrees, being proportional to the mass concentration of particles traversing the sensing volume.

The G.C.A. monitor is calibrated using its built-in reference scatter. The G.C.A. monitor's analog output signal is connected to a Houston Instruments Omniscribe strip chart recorder and the monitor is set at its highest resolution scale (0-2 mg/cubic meter, 1 ug/cubic mt. resolution) and the time constant at its highest signal averaging time of 32 seconds. A chart is made of employee's breathing zone concentration, outside the facepiece-the challenge dust being the innocuous airborne room dust.

3.) Quantitative Fit Testing Cont'd.:

While still monitoring the breathing zone concentration, outside the facepiece, the employee is asked to don the same-size-facepiece test respirator as he was qualitatively fitted with in the Pressure Test fit training. The facepiece probe is immediately connected to the G.C.A.'s sample inlet, via a hose, and the inside facepiece concentration is recorded for 3-4 minutes--until it stabilizes at its lowest average within facepiece concentration. The worker is asked to simulate typical job actions such as; moving his head from side to side, moving his head up and down, talking, or deep breathing to see if these actions will affect the within-facepiece concentration. Following this, the hose is removed from the facepiece probe and the concentration outside of the facepie-e-is remeasured. From the inside and outside facepiece concentration the protection factor (PF) is calculated -- the PF is the ratio of outside to inside dust concentration. If the base protection factor of 10 cannot be met, we attempt to adjust the position of the respirator or substitute the facepiece with another size; then try again--until successful.

Because the quantitative fit procedures are:

- 1.) Lengthy
- 2.) Subject to change by adoption of federal and/or state standards.
- 3.) Conducted by a qualified technician.

They will be detailed in the appendix.

7. Training

- A. The overall success of this program relies on training the user. Both new employee and ongoing respirator training are needed. The coordination of all the training efforts are needed to insure low employee exposure to airborne lead.
- B. New employee respirator training.

Prior to being issued a respirator and actually working in the plant, each new employee shall be trained by the plant respirator issue attendant, plant nurse or safety director in the following areas:

- 1. Nature of exposure hazard, whether acute, chronic or both and an appraisal of what may happen if the respirator is not worn.
- 2. The selection process used to determine appropriate respiratory protection.
- 3. Proper use of the selected respirator.
- 4. Limitations of the selected respirator.
- 5. Factors affecting proper facepiece to face seal.

7. Training Cont'd.

- B. New employee respirator training.
 - 6. Other available respirators with higher levels of protection.
 - 7. Daily turn in procedures.
 - 8. Maintenance, cleaning, disinfection and storage of respirators.
- C. Continuing respirator training.

Each employee who regularly wears a respirator shall be retrained by the plant respirator issue attendant, plant nurse or the safety director every six (6) months. The training shall cover the eight areas mentioned above.

In addition, whenever a higher level of exposure or a significant increase in employee blood lead level dictates a change in respiratory protective equipment, the employee will be counseled regarding the proper use of the new respirator, as well as other aspects of lead hygiene.

D. Respirator issue attendant training.

Each appointed plant respirator issue attendant(s) will be trained by the Division Industrial Hygienist, or Plant Safety Director in the following areas:

- 1. Respirator selection criteria including cartridge or canister selection.
- 2. Respirator identification and labeling procedures.
- 3. Complete inventory of available approved respirators.
- 4. Proper use of respiratory protective equipment.
- Limitations of selected respirators.
- 6. Qualitative fit test procedures.
- 7. Factors affecting facepiece-to-face scal.
- 8. Maintenance, cleaning, disinfecting and storage of respirators.
- 9. Procedures for ordering respirators, new parts and all necessary respirator supplies.
- 10. Record keeping requirements.

- 8. Respirator Cleaning and Issue.
 - A. Initial issure procedure.
 - 1.) From employee's job classification and assigned work area, determine the minimum level of protection required.
 - 2.) Select respirators at that level and begin fitting facepiece to find best fit.
 - Once a respirator is selected, check fit with positive and negative pressure tests. Also use irritating smoke or banana oil to check the fit.
 - 4.) Once respirator fit is established qualitatively, either
 - a.) Make up two half face respirators.
 - b.) Make up one of all others.
 - c.) Select cartridges to fit the expected contaminants.
 - 5.) Label each facepiece with the employee's name or clock number. Label each cartridge with the name or clock number and the issue date.
 - 6.) Document the fit testing of the employee on the "Respirator Fit Test and Training Documentation" form #IH-5.
 - 7.) Notify the Safety Director of the fitting by giving him the white and yellow copies. The pink is given to the user.
 - B. Storage procedure.
 - 1.) Once cleaned, every respirator must be placed into a clean plastic bag and sealed shut.
 - 2.) Each assigned respirator shall be put into a storage cubbyhole with the user's name or clock number above it.
 - 3.) No clean respirator shall be stored without being scaled in a plastic bag.
 - C. Daily cleaning and maintenance.
 - 1.) Before any respirator is cleaned, it should be inspected in the following areas:
 - a.) Tightness of connections.
 - b.) Condition of the facepiece, valves, connecting tubes, headbands and cartridges/filters.
 - c.) Rubber or clastomer parts shall be inspected for pliability and signa of deterioration.
 - d.) All defective or missing respirator parts must be replaced or repaired before the respirator is reissued.

- C. Daily cleaning and maintenance cont'd.
 - 2.) Machine cleaning of partial face respirators.
 - a.) Remove both cartridges from facepiece and put them on the low table in the respirator room.
 - b.) Put 20-25 facepieces into the front loading washer and add 2-3 rags or small cloths.
 - c.) Put in one (1) jigger of Amway L.O.C. as the cleaner/sanitizer.
 - d.) Run the facepieces on a normal wash, rinse, and spin dry cycle. Check that the water is set to warm, NOT THE HOT setting.
 - c.) Remove the facepieces from the machine at the end of the cycle. Put them on a clean counter surface to air dry. Remove any excess moisture with a clean, dry towel.
 - f.) Inspect the cartridges to see if expiration date is exceeded. Replace and label as necessary.
 - g.) Assemble cartridges to facepieces. Match names and number. Inspect valves, gaskets, facepiece and headbands. Replace any missing or deteriorated.
 - h.) Put clean, assembled respirator into a clean plastic bag and seal the end shut.
 - 3.) Hand cleaning of respirators: 1/2 face, full face, P.A.P.R., Air Line and Vehicle Mount.
 - a.) Remove respirator prefilters, cartridges/filters, inhalation and exhalation valves.
 - b.) Face masks are washed in luke warm water with a cleaning sanitizing agent (e.g. MSA Cleaner-Sanitizer, Catalog No. 34337). To avoid distortion of parts due to overheating, the wash and rinse water should not exceed 120°F. .
 - c.) After washing, place the respirators on a clean countertop. Allow the respirators to dry at room temperature.
 - d.) Cartridges and filters are inspected to assure that the expiration date has not been exceeded. Replace if necessary.
 - e.) The cartridges/filters, inhalation and exhalation valves are installed on the same face mask.
 - f.) Clean assembled respirators are scaled in a plastic bag with the clock number or I.D. number visible.

- 4.) Powered air purifying respirator cleaning.
 - a.) After each use the attendant will clean the facepiece and connecting tubes as outlined above Cleaning by Hand.
 - b.) Using a clean damp cloth, wipe the battery pack free of any dust or dirt.
 - c.) The attendant will remove the high efficiency filters and inspect them for particulate buildup and damage.
 - d.) The attendant will check the filters for resistance to air flow using a MSA magnetic test device. Whenever the flowrate drops below 4.0 liters per minute, the filters must be replaced. See manufacturers instructions for further information.
 - e.) The attendant will put the battery on charge for 12-16 hours. Do not charge the batteries for greater than 16 hours! Overcharging will greatly decrease battery life.
 - f.) Clean assembled facepeices and connecting tubes are sealed in a plastic bag with the clock number or I.D. number visible.
- 5.) Cleaning and inspection of 3M White Caps:
 - a.) After each use, the attendant will clean the white caps, tubes and accessories as described above - Cleaning by Hand. Specifically:
 - Washing all skimmer parts in a luke warm cleaning and sanitizing solution.
 - Wiping the inside of the air filtration shell with a clean damp cloth.
 - Washing the screen and cap in a luke warm cleaning and sanitizing solution.
 - b.) The attendant will remove the high efficiency filters and inspect them for particulate buildup and damage. Replace if damaged or heavily loaded with dust.
- 6.) Cleaning and inspection of air hoses.
 - a.) Wipe down each hose with soapy rag.
 - b.) Dry and inspect for damage. Repair or replace as necessar -.
 - c.) Test under pressure for leaks.
 - d.) Coil and store for future use.

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E. Documentation

- 1.) Daily document cleaning for each respirator turned in. Record this on a monthly chart listing all employees and their assigned respirators.
- 2.) Daily document each airline issue and receipt.
- 3.) Document all qualitative fit testing and training using "Respirator Fit Test and Training Documentation" Form 1H-5.
- 4.) Document all quantitative fit testing using "Respiratory Protection Equipment Documentation Record" Form 1H-7.

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Gould Inc., Metals Division Division Headquarters P.O. Box 43484 St. Paul, Minnesota 55164



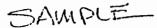
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White: Plant Respirator Issue Attendant Or Plant H.&S. Dept. (Regulated EEF)

Yollow: Plant Medical Department (Regulated EMF)

Pink: Employee

IH-5-1280-C-1200





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RESPIRATOR QUANTITATIVE FIT TEST PROCEDURE

- A. Required Equipment for Testing.
 - 1. GCA R.A.M.-1
 - 2. Houston Omniscribe, with chartpaper and spare pens.
 - 3. Probed respirators for:
 - a. MSA Comfo II, (S,M,L)
 - b. MSA Ultraview standard size
 - c. MSA PAPR Partial Face (S,M,L)
 - d. MSA PAPR Ultraview standard
 - e. Norton 7500 (S,M,L)
 - f. Norton 7600 standard
 - g. Willson 1200 med, large
 - 4. Fit documentation forms:
 - a. Respirator Fit Test & Training Documentation Form IH-5.
 - b. Respiratory Protection Equipment Documentation Record Form IH-7.
 - 5. Qualitative testing chemicals:
 - a. Irritating smoke tubes.
 - b. Isoamyl acetate (banana oil) and applicator or banana oil ampules.
 - 6. Pen, pencil, calculator:
- B. Tost Procedure:
 - 1. Calibrate R.A.M.-1 in accordance with manufacturer's instructions.
 - a. Range-set to $0-2 \text{ mg/H}^3$.
 - h. Time constant set to 32 seconds.
 - c. Voltage use charging cord in 110V. outlet.
 - 2. Set Up Houston Omniscribe.
 - a. Put powercord in 110%. socket.
 - b. Chart speed set to 1 in/minute.
 - c. Full scale = 1 volt.
 - d. Attach input line to R.A.M.-1's analog output jack.
 - c. Zero instrument per manufacturer's instructions.

- 3. Label each test chartpaper with the following information:
 - a. Name of employee.
 - b. Date test conducted.
 - c. Respirator description..
 - d. Area where he works.
 - e. Job classification.
 - f. RAM-1 time constant.
 - g. RAM-1 range setting.
 - h. Omniscribe chart speed.
 - i. Omniscribe full scale voltage.
 - j. Any facial characteristics that may interfere with fit.

4. Test Protocol - Both Seated:

- a. Explain the function while showing the physical parts of employee's respirator to him.
- b. Explain the different qualitative tests to employee smoke/ banana oil/positive pressure/negative pressure.
- c. Inspect the cartridges for issue date, suitability, damage.
- d. Explain and have employee show how to don and adjust his own respirator.
- e. Have employee don and adjust respirator. Test fit with isosmyl acetate. Have amployee broathe deeply and move head. Also, have him simulate work movements.
- f. If employee unable to taste/smell the acetate after test, use irritating smoke for test. Repeat deep breathing, head movement and work motions.
- g. Have employee demonstrate negative and positive pressure tests. Insure he knows and demonstrates procedures to you.
- h. Cover use and storage of respirator.
- i. Explain the quantitative fit test to employee.
- j. Have employee don a probad respirator identical to his own respirator. Have him adjust the mask for comfortable fit.
- k. Take room ambient readings with RAM. Label the chartpaper, when stable reading for two minutes.
- 1. Connect probed respirator to RAM and read inside concentration.
- m. Have employee move head, breathe deeply, talk with mask on; put finger in to break seal.

Respirator Protection Program Revised 1/17/83 Appendix C Page 3

- Test Protocol Both Seated Cont'd.
 - n. Remove mask and record reading after 3 minutes.
 - o. Explain what he has seen.
 - p. Fill out both test forms. Have employee sign the Fit Test and Training documentation form.
 - q. Chart of fit should be labeled as follows:
 - 1.) Standard info per B.3.
 - 2.) Stable ambient value pretest.
 - 3.) Time mask donned.
 - 4.) Value at 2 minutes.
 - 5.) Value at 3 minutes.
 - 6.) Time and value while moving head.
 - 7.) Time and value while deep breathing.
 - 8.) Time and value while talking.
 - 9.) Time broke seal with finger.
 - 10.) Time removed mask.
 - 11.) Value 3 minutes after removal.
 - 12.) Value for stable ambient post-test.
 - 13.) Protection factor for respirator.
 - r. Attach chartpaper and one copy of training documentation form.

OPERATION OF RESPIRATORS

- 1. MSA Powered Air Purifying Respirators PAPR.
 - a. Put the waist belt and battery pack on and adjust the belt to fit properly.
 - b. To start the blower, turn the blower motor switch to the "on" position.
 - c. Put the facepiece on and adjust the straps to fit properly.
 - d. To stop the blower, turn the blower motor switch to the "off" position.
 - e. Battery life is rated only (4) hours per charge. Therefore, each PAPR must have two batteries for an eight (8) hour shift.
 - f. IMPORTANT This respirator must <u>not</u> be used in oxygen deficient areas (e.g. confined spaces, baghouses, furnace feed floors, furnaces, kettle settings, settling chambers, etc.).
- 3M White Cap^O PAPR Vehicle Mount Operation.
 - Adjust the White cap so that it fits properly.
 - b. Put the waist belt (with helmet strain relicf) on.
 - c. Connect the breathing tube from the air purifying filter outlet to the helmet and secure with KWIK clamps.
 - d. To start, flip the motor toggle swithe to the "on" position.
 - e. To stop, flip the motor toggle switch to the "off" position.
 - f. Remove the helmet before leaving the vehicle.
 - g. IMPORTANT This respirator must <u>not</u> be used in oxygen deficient space, baghouses, furnace feed floors, furnaces, kettle settings, settling chambers, etc.).
 - h. Should problems with the unit develop, see Table 3-4, "White Cap Trouble Shooting Guide" for assistance.

- 3. Supplied Air Respirators Full Facepiece Positive Pressure
 - a. Connect the air hose to both the respirator and the air supply quick connect couplings.
 - b. Adjust the air regulator to an air pressure between 50 and 80 pounds per square inch (psig).
 - c. Remove your air purifying (negative pressure) respirator and place it in the plastic bag that contained the supplied air respirator.
 - d. Put the supplied air respirator on and adjust the belt mounted air flow regulator for proper air flow.
 - e. Adjust the facepiece head straps for proper fit.
 - f. At the end of the job, remove the supplied air respirator and put the air purifying respirator on.
 - g. Disconnect the hose from both the respirator and the air supply quick connect couplings.
 - h. After each use, return the supplied air respirator and air hose to the central respirator issue room for cleaning, inspection and maintenance.
- 4. Supplied Air Respirators 3M White Capo
 - a. Take the plastic bagged helmet and hose to the nearest air station where the work is to be done.
 - b. Put the waist belt on and adjust to fit properly.
 - c. Connect the hose to the belt mounted air regulator and to the air supply quick connect couplings.
 - d. Adjust the air regulator to a pressure between 50 and 80 pounds per square inch (psig).
 - e. Remove the White Cap from the plastic bag.
 - f. Remove your air purifying (negative pressure) respirator and place it in the plastic bag that contained the White Cap.
 - g. Put the White Cap on and adjust the helmet skirts to fit properly.
 - h. Adjust the belt mount airflow regulator for proper air flow.
 - i. At the end of the job, remove the supplied air respirator and put the air purifying respirator on.

- 4. Supplied Air Respirators 3M White Cap^O Cont'd.
 - j. Disconnect the air hose from the air regulator and the air supply quick connect couplings.
 - k. After each use, return the supplied air respirator and air hose to the central respirator issue room for cleaning, inspection and maintenance.
 - 1. Should problems with the unit develop, see Table 3-5, "White Cap Trouble Shooting Guide" for assistance.

WHITE-CAP TROUBLE SHOOTING GUIDE

TROUBLE		PRODABLE CAUSE		REMEDY
Blower does not r	run. 1.	Switch not "ON".	1.	Push switch to "ON".
	2.	Electrical connector not plugged into battery box.	2.	Plug connector in.
	3.	Connector from bat- tery to battery box not connected.	3.	Check connection in battery box.
	4.	Battery out of charge.	4.	Re-charge or change battery.
	5.	Electrical lead broken.	5.	Repair broken lead.
	6.	Motor defective.	6.	Replace blower assembly.
	7.	Fuse blown.	7.	· _
Blower runs but lair flow.	ow 1.	Battery voltage output low.	1.	Recharge battery.
•		High efficiency filter loaded.	2.	Install new filter.
	3.	Inlet screen plugged.	3.	Clean screen.
High efficiency filter clogs pre- maturely.	1.	Skimmer assembly plugged.	,1.	Clean skimmer assembly.
mu.uz czy .	2.	Dump tube plugged	2	Clean tube with pipe cleaner.
	3.	Prefilter not in correct position.	3.	Reposition filter.



EMPLOYEE RESPIRATOR USE AND FIT-TEST RECORD

OYEE NAME	CLOCK #	DATE	DEPARTMENT	
CLASSIFICATION :		AIR LEAD E	XPOSURE FOR THIS JOE	CLASSIFICATION
PIRATOR MFG. TYPE, AND SIZE		RESPIRATOR	USE DUE TO: BLOOD L	EAD, AIR LEAD (circle one)
GE FILTERS: DAILY, WEEKLY, EYERY TWO WE	EKS, MONTHLY, EVERY	MONTHS, 0	THER (cir	cle one)
	SENSITIVITY TEST WITH S	SOLUTION # 1		
ovee must wear FT-10 hood without a respin. Squeeze 10 squeezes of solution # 1 in eed to the next test. If he does not detail does not detect the sweet taste, then to squeezes, then you will have to use anding, or chewing tobacco or gum may tempor oyees refrain from these habits prior to	ito the hood, and ask theet, squeeze another 10 my squeezing a final 1 ther fit-test method. arily affect the employ	ne employee if) squeezes into 0 squeezes Most people wi rees ability to	he detects a sweet of the hood and ask f If there is no taste ill detect the sweet of taste the test sol	taste. If he does, then or his response. If he sensation after this total taste after 10 squeezes. ution. Please have
er of squeezes necessary for employee to	detect sweet taste(A	Divide th	nis number by 2 =	(B) ·
oyee could not detect sweet taste after	30 squeezes	*******	******	*********
	IRRITANT SMOKE TEST			
test is to be done for those employees ir fitted with high efficiency filter. k () is the employee does not dete ng course of any of the exercises. A e is very irritating to both eyes and three bulb to one end. Squeeze the bulb to se of exercises, try to aim the smoke tow coue to that type of exercise. (For Exam bead up and down. Aim the smoke at the	s. The following exercent the irritant smoke, dvise employee to keep oat. Break open both emit smoke. Direct thards the area of the faple: Aim the smoke und	ises must be of mark (X) if his eyes close nds of a glass e smoke into the where you eer the chin and the chi	tone by the employee the employee detected throughout the en MSA smoke tube Parthe hood through the expect the respirator dat the bridge of	for a period of 10 seconds to the irritant smoke tire test, as the irritant ton.# 5645, and attach a front opening. During the facepiece seal might the nose when employee
· <u>Ex</u>	ERCISES: Each exercise	to be done for	10 seconds	
NORMAL BREATHING DEEP BREAT				
MEAD UP AND DOWN (ONE DIRECTION P	ER SECOND TALKING (RAINBOW PASSAG	E-ON BACK) NORM	L BREATHING
TAUT SMOKE TEST: PASS FAIL Jing all straps, filter attachment, respin	(Employee fails test i	f he has detec	ted smoke. Refit to	ne respirator after the employee's face)
	FT-10 SOLUTION # 2	•		
successfully passing the irritant smoke ises as that were performed in the irritation 1 minute each. To start the test, so yee to detect the sweet taste in the first to the hood until all the excercises have nin taste, and (X) is the employee detect the entire course of this test.	ent smoke test should be queeze Solution # 2 into st test (Blank A). Even been completed. Again	e done for thi o the hood for ry 3D seconds , mark () if	s test, except that the number of times thereafter, squeeze the employee does no	each excercise must be it was necessary for the half that number (Blank of detect the sweet
	EXERCISES: Each exe	ercise to be d	one for 60 seconds	
NORMAL BREATHING DEEP BREATH	HING (DEEP AND REGULAR)	HEAD SIDE	TO SIDE (ONE SIDE P	ER SECOND)
KEAD UP AND DOWN (ONE DIRECTION I	PER SECOND) TALKING	(RAINBOW PASS	AGE- OH BACK) NO	RMAL BREATHING
TEST # 2: PASS FAIL (If employee should be rete; t be repeated.)	sted with a better fitt	ing respirator	r, and the irritant	ar that respirator in a smoke test and FT-10 Test

WHEN THE SUNLIGHT STRIKES RAINDROPS IN THE AIR, THEY ACT LIKE A PRISM AND FORM A RAINBOW.

THE RAINBOW IS A DIVISION OF WHITE LIGHT INTO MANY BEAUTIFUL COLORS. THESE TAKE THE SHAPE

OF A LONG ROUND ARCH, WITH IT PATH HIGH ABOVE, AND ITS TWO ENDS APPARENTLY BEYOND THE

HORIZON. THERE IS, ACCORDING TO LEGEND, A BOILING POT OF GOLD AT ONE END. PEOPLE LOOK,

BUT NO ONE EVER FINDS IT. WHEN A MAN LOOKS FOR SOMETHING BEYOND HIS REACH, HIS FRIENDS

SAY HE IS LOOKING FOR THE POT OF GOLD AT THE END OF THE RAINBOW.

RESPIRATOR TRAINING

heck all those topics that were discussed with the employee)

RESPIRATOR USE (USE OF BOTH STRAPS, MEARING STRAPS UNDER HARDHAT, KEEPING RESPIRATOR ON WHILE TALKING)

- RESPIRATOR FIT (POSITIVE AND/OR NEGATIVE FIT TEST EACH TIME RESPIRATOR IS PUT ON)
- RESPIRATOR STORAGE (USE OF PLASTIC BAG DURING BREAKS AND LUNCH)
- STORAGE OF FILTERS (DIRTY SIDE TO DIRTY SIDE OR CLEAN SIDE TO SIDE, DAILY WIPING OF FILTERS WITH ALCOHOL WIPE,

 AND STORAGE IN A PLASTIC BAG)
- RESPIRATOR INSPECTION (VALVES, FACEPIECE, STRAPS, FILTERS)
- TYPES OF CONTAMINANTS (LEAD DUST AND/OR LEAD FUME)
- FACIAL HAIR LIMITATION (NO BEARDS PERMITTED. MUSTACHES AND LONG SIDEBURNS MUST NOT INTERFERE WITH RESPIRATOR FACEPIECE SEAL, DAILY SHAYING)
- USE OF ALCOHOL WIPES (ON INSIDE OF FACEPIECE AFTER BREAKS AND LUNCH, FILTERS AND OUTSIDE OF FACEPIECE AFTER THE INSIDE HAS BEEN WIPED)
- EFFECT FROM CHANGING FACIAL STRUCTURE (CIRCLE AND DISCUSS ALL THAT APPLY: MISSING TEETH, DENTURES, FACIAL SCARS, PREVIOUSLY BROKEN FACIAL BONES, WEIGHT GAIN OR LOSS OF 10 POUNDS)

EMPLOYEE STATEMENT

DERSTAND THAT I AM RESPONSIBLE FOR:

WEARING MY RESPIRATOR WHENEVER I MAY BE EXPOSED TO LEAD

WEARING MY RESPIRATOR WHENEYER I MAYE AN ELEVATED BLOOD LEAD LEVEL

DAILY INSPECTION OF VALVES, FACEPIECE, STRAPS, AND FILTERS

DAILY STORAGE OF RESPIRATOR IN ITS PLASTIC BAG DURING BREAKS AND LUNCH

PDSITIVE OR NEGATIVE FIT TESTS EACH TIME I PUT ON THE RESPIRATOR

L'EARING MY RESPIRATOR PROPERLY WITH USE OF BOTH STRAPS TIGHTLY

WEARING THE TOP STRAPS UNDERNEATH MY HARDHAT

KNOWING THE SIZE AND BRAND NAME OF THE RESPIRATOR THAT FITS ME BEST

KNOWING THE TYPE OF FILTERS I NEED FOR PROPER PROTECTION

PEPORTING ANY RESPIRATOR PROBLEM TO MY SUPERVISOR

CARING FOR THE RESPIRATOR ITSELF. AND WILL BE CHARGED SHOULD THE LOSS OF MY RESPIRATOR OCCUR

DYE	"GHATURE	DATE	
HIDI	SIGNATURE		
TOHAL	COMMENTS:		

APPENDIX E

PAPR USER LIST

hite William March

To All Employees

From Safety Director

Dept./Div.

Safety/Metals

Date

November 23, 1982

Location

Los Angeles, CA

Subject

POWERED AIR PURIFYING RESPIRATOR

USE/ASSIGNMENT

Copies to

J. Papp

B. Smith
A. Saldana

- 1. The powered air purifying respirators (P.A.P.R.) used in this plant, provide protection from 20 to 100 times greater than a half-face respirator. They also provide four to 20 times the protection of a full face respirator. Because of the proven protection of these units, they have been assigned to jobs which are highly contaminating, or to persons with high or rising blood lead values.
- 2. Once assigned into a powered air respirator, an individual may not stop using them at their own request. Permission to stop must either be given by the Safety Director or the Nurse.
- 5. The following jobs require a powered air respirator to be worn by the persons performing them:

RMPS:

Truck Dump Operator Reverb Chargemaker

SMELTER:

Reverb Furnace Operator
Blast Furnace Operator
Blast Furnace Chargemaker

4. The following persons are required to wear a P.A.P.R.:

OXIDE:

Cleveland Ross John Carpenter Claude Pratt

MAINTENANCE:

John Cox Dennis Garcia Frank Hemenway

WEST YARD:

Pedro Montalvan Willie Brown

SMELTER:

Austin Belisle
John Martinez
George Correra
Modesto Lopez
Benny Harris
Willie Moore
John Drake
Michael Hoeper
Joe Taylor
Abraham Jones

Ron Johnson



All Employees
Powered Air Purifying Respirator
Use/Assignment
Page 2

4. The following persons are required to wear a P.A.P.R. (Cont'd.):

RMPS:

Michael Gibson Antonio Marquez Lawrence Spears

5. All powered air respirators must:

Be turned in at the end of each shift. (Belts, batteries, motors, face pieces.)

Failure to do so is a major offense - in that it puts another man's health in jeopardy.

Douglas Weber Safety Director

DW:mlf

CURRENT ASSIGNMENT - PAPR

11/25/82

				• •	
JOBS REQUIRING	PAPR	DAY SHIFT	SWING SHIFT	GRAVE SHIFT	ROTATION SHIFT
RMPS Truck Dump	Operator	M. Gibson			
Reverb Chargema	ker	M. Cuen	J. DeLaRosa	A. Jones	S. Contreras
Reverb Operator		M. Lopez	R. Hernandez	S. Banks	M. Hooper
Blast Operator		O. Christopher	S. Rangel	A. Cortez	R. Batiste
Blast Chargemak	er	R. Rodriquez	F. Basoco	J. Drake	H. Saddler
		,,	•		
INDIVIDUAL	~ `			•	
ASSIGNMENT .	•	C. Pratt J. Cox D. Garcia	J. Carpenter Ron Johnson	C. Ross B. Harris	G. Carrera
		F. Hemenway P. Montalvan W. Brown			
	. •	A. Belisle J. Martinez			
		W. Moore	,	•	

GNB INCORPORATED

RESPIRATORY PROTECTION/SCBA TRAINING

RESPIRATORY PROTECTION LEARNING OBJECTIVES

- 1. The student will gain an appreciation of the need for respiratory protective devices.
- 2. The student will be able to properly select, wear, and care for respiratory protective devices.

RESPIRATORY PROTECTION AND TRAINING PROGRAM

- 1. Proper selection
 - A. Self-Contained Breathing Apparatus

 Demand air metered when breathing

 Positive pressure air flow continuously positive
 - B. Air purifying

 Mechanical filter

 Chemical cartridge

 Combination

 Gas mask
- 2. Instruction
 - A. Nature of hazard
 - B. Correct use
 - C. Limitations
 - D. Actual use
 - E. Field training emergency
 - F. Fit test
- 3. Supervision
- 4. Medical surveillance
- 5. Cleaning and disinfecting
- 6. Inspection and maintenance
- 7. Storage
- 8. Approvals

RESPIRATORY PROTECTIVE DEVICES

INTRODUCTION

In the control of occupational disease caused by breathing contaminated air, the primary objective should be to prevent the air from becoming contaminated. If industrial work processes present hazards of exposure to harmful vapors, gases, dusts, mists, or fumes, these processes should be enclosed or ventilated to eliminate or minimize the hazards. However, there are circumstances in which engineering controls, will be impractical, inapplicable, or ineffective. In these situations, respiratory protective equipment should be provided to workers exposed to possible danger. In addition to their employment as a control measure in occupational exposures, respiratory protective devices are also essential in emergencies that may arise from failure or improper use of other control equipment.

From a practical standpoint, respiratory protective devices will not be worn continuously by workers because of the discomfort involved. Therefore, protective respiratory equipment should be considered a last resort, or as standby protection, but never as a substitute for effective engineering controls.

TYPES OF RESPIRATORY PROTECTION

Respiratory protective devices fall into two broad groupings on the basis of their mode of functioning: A. atmosphere supplying respirators, and B. air-purifying respirators.

- A. Atmosphere-supplying respirators provide a respirable atmosphere to the wearer independent of the immediate atmospheric environment. They are divided into two main subgroups:
 - 1. SELF-CONTAINED BREATHING APPARATUS (SCBA).

The unique feature of all types of self-contained breathing apparatus is that the wearer need not be connected to a stationary air source, such as a compressor. Instead, enough air or oxygen for up to four hours is carried on the person. For this reason, this type of respirator provides protection against all types of atmospheric contaminants in any concentration that can be endured by the skin. There are two basic classifications of SCBA's - "closed circuit" and "open circuit".

In the close circuit category, the air is rebreathed after the exhaled carbon dioxide has been removed and the oxygen content restored. These types of devices are designed for longer continuous use than the open circuit devices which exhaust the

exhaled air to the atmosphere instead of recirculating it. Because closed circuit SCBA's operate under negative pressure, they have limited approval for use in atmospheres classified as "Immediately Dangerous to Life and Health", (IDLH). They are generally restricted to mine rescue.

NOTE: Immediately Dangerous to Life and Health (IDLH) is defined by NOISH as "Conditions that pose an immediate threat to life or health or conditions that pose an immediate threat of severe exposure to contaminants such as radioactive materials which are likely to have adverse cumulative or delayed effects on health".

Two factors are considered when establishing IDLH concentrations:

- 1. The worker must be able to escape without losing his life or suffering permanent health damage within 30 minutes. Thirty minutes is considered by OSHA as the maximum permissible exposure time for escape.
- 2. The worker must be able to escape without severe eye or respiratory irritation or other reactions that could inhibit escape.

2. SUPPLIED-AIR RESPIRATORS

The distinguishing feature of supplied-air respirators is that air is supplied from a stationary, remote source to the wearer through a hose. The air supplying respirators are divided into three types, namely hosemasks, air-line respirators, and abrasive blasting hoods.

NOTE: No supplied-air respirator is approved for use in IDLH atmospheres.

- a. Hose masks supply air from an contaminated source through a strong, large-diameter hose. There are two basic types of hosemasks available. One has a blower, either hand or motor operated, (Type A). The other type, (Type B), of hosemask has no blower and requires the wearer to inhale through the hose. The Type "A" hosemask may have a facepiece, helmet, or hood, and up to 300 feet of hose. Type "B" hosemask must have a tight fitting facepiece, and may have only up to 75 feet of hose.
- b. Airline respirators, (Type C), all use a stationary source of compressed air delivered through a high pressure hose. Type "C" respirators are available in demand, pressure-demand, and continuous flow configurations. The respiratory-inlet covering may be a facepiece, helmet, hood, or complete suit. Airline respirators provide a high degree of protection, but their use is limited to atmospheres not immediately dangerous to life.

- c. Abrasive Blasting Respirators, (Type AE, BE, or CE), are essentially air supplying respirators that have been modified by the addition of a suitable covering to protect the head and shoulders against impact and abrasion by rebounding material. They are designed principally for use in abrasive blasting operations.
- B. Air purifying respirators remove gaseous or particulate contaminants, or both, from otherwise respirable air that is inhales by the wearer. They are of no use where an oxygen deficiency exists, or in IDLH atmospheres. They are divided into the following types.

1. MECHANICAL FILTER RESPIRATORS

Mechanical filter respirators offer respiratory protection against airborne particulate matter including dusts, mists, metal fumes, and smokes. They consist of a soft resilient full or half-mask facepiece. Directly attached is one of several types of mechanical filters made up of some fibrous material which removes particles by physically trapping them . as air is inhaled through the materials. NOISH certifies respirators for one or any combination of particulate hazardsnuisance, fibrosis producing, and/or toxic dusts, mists, and fumes. Mechanical filter respirators have been designed for protection against atmospheres which are not immediately harmful. They do not protect against gases or vapors or against an atmosphere deficient in oxygen (less than 19.5%). There is a practical limit for the concentration in which a mechanical filter respirator should be used. If the concentration is so high that the filter must be changed several times an hour in order that the wearer can inhale without undue resistance, a more suitable type of device should be selected.

2. CHEMICAL CARTRIDGE RESPIRATORS

Chemical cartridge respirators afford protection against high concentrations (up to 0.1 percent by volume, depending upon the contaminant) of certain acid gases and organic vapors by utilizing various chemical filters to purify the inhaled air. Chemical cartridge respirators are "non-emergency" respiratory protective devices and should never by used in dangerous atmospheres. It is necessary that oxygen be present at all times to support life (greater than 19.5%). Facepieces are the same as for mechanical filter respirators.

3. COMBINATION RESPIRATORS

Combination respirators use dust, mist, or fume mechanical filters plus a chemical cartridge for dual or multiple exposure. One common job where combination respirators should be used would be spray painting.

TABLE I

ATMOSPHERIC CONTAMINANTS TO BE PROTECTED AGAINST	COLORS ASSIGNED
Acid Gases	White
Hydrocyanic acid gas	White with 1/2 inch green stripe completely around the canister near the bottom.
Chlorine gas	White with 1/2 inch yellow stripe completely around the canister near the bottom.
Organic Vapors	Black
Ammonia gas	Green
Acid gases and ammonia gas	Green with 1/2 inch white stripe completely around the canister near the bottom.
Carbon Monoxide	Blue
Acid gases and organic vapors	Yellow
Hydrocyanic acid gas and chloropicrin vapor	Yellow with 1/2 inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases	Brown
Radioactive materials, excepting tritium and noble gases	Purple (magenta)

ATMOSPHERIC CONTAMINANTS TO BE PROTECTED AGAINST	COLORS ASSIGNED
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors	Canister color for contaminant as designated above, with 1/2 inch gray stripe completely around the canister near the top
All of the above atmospheric contaminants	Red with 1/2 inch gray stripe completely around the canister near the top

INSTITUTING AN EFFECTIVE RESPIRATORY PROTECTION PROGRAM

. If a respirator is to do the job for which it is chosen, it must be worn properly, kept clean, and in a good operating condition. Frequently workers do not know how to wear a respirator. If it is not clean, it is unpleasant to wear. OSHA 1910.134 outlines the requirements of a proper respirator program. There are 11 "Commandments", including the following points:

A. SELECTION

The use of a respiratory protective device is justified only after a consideration of the factors involved indicates that the device selected will provide satisfactory protection when properly used. In selecting respirators, the questions in Table II should be considered.

Another guide for the proper selection of respiratory protection is the Respirator Protection Factor which indicates how much protection a respirator provides. It is the ratio of the contaminant concentrations outside and inside the respirator, one must know both the actual contaminant concentration in the work area and the established time-weighted average concentration. Multiplying the time-weighted average concentration by the respirator protection factor gives the maximum concentration of the contaminant against which the particular type of respirator may be used.

Respirator Protection Factors are shown in Table III. These should be used unless greater factors have been determined for each worker quantitatively.

Tables II, III, and IV can provide enough information for choosing respirators for routine and emergency use.

B. INSTRUCTION

It is important that the wearer be properly instructed in the selection, use, and maintenance of the respirator by a competent person. No one should be permitted to wear a respirator unless they have been instructed in its use. Such instruction should cover:

- 1. Instruction in the nature of the hazard, whether acute, chronic, or both, and an honest appraisal of what may happen if the proper device is not used.
- 2. Explanation of why more positive control is not immediately feasible. This shall include recognition that every reasonable effort is being made to reduce or eliminate the need for respiratory protection.
- 3. A discussion of why this is the proper type of unit for the particular purpose.
- 4. A discussion of the device's capabilities and limitations.
- 5. Instruction and training in actual use (especially a respiratory protective device for emergency use) and close and frequent supervision to assure that it continues to be properly used.
- 6. Classroom and field training to recognize and cope with emergency situations.

Training shall provide the employees an opportunity to handle the device, have it fitted properly, test its facepiece-to-face seal, wear it in normal air for a long familiarity period, and finally, to wear it in a test atmosphere.

C. SUPERVISION

After the wearer is instructed in the use of a respirator, adequate supervision should be given to assure that the proper device is being used properly for each exposure condition and the device is in good operating condition.

D. MEDICAL SURVEILLANCE

Workers should never be assigned to any operations requiring respiratory protection, until a physician has determined that they are capable physically and psychologically to perform the work using the respiratory protective equipment. Many plants have pre-employment physical examinations which aid in such evaluation, but additional checks may be necessary to determine suitability for specific assignment.

Should an employee have exposure to certain toxic materials, periodic examinations such as urinalysis or bioassay may be necessary even though the worker wears the proper respiratory protective equipment.

E. CLEANING AND DISINFECTING

Routinely used respirators should be cleaned after each use. If a respirator is used by only one individual, they should be briefed on the cleaning procedure. The respirator should be washed with warm water and soap, rinsed in clean warm water, and air dried in a clean place. The device should then be placed in a plastic bag for storage.

Respirators should also be disinfected at regular intervals. If the respirator is worn by the same person, disinfection once a week is probably satisfactory in most cases. A respirator that has been worn once should be thoroughly cleaned before it is given to another person to wear. The compounds generally considered to be the most reliable for disinfecting respirators are:

- 1. A hypochlorite solution (50 parts per million of chloring) for 2 minutes.
- 2. An aqueous iodine solution (50 parts per million of iodine) for 2 minutes.
- 3. A quaternary ammonium solution (200 parts per million of quaternary ammonium compounds in water with less than 500 parts per million total hardness).

Live steam or very hot water (170 F), organic solvents, and ultraviolet light should not be used in disinfecting respirators because of their injurious effects, particularly on the rubber parts.

F. INSPECTION AND MAINTENANCE

Washing and disinfecting of respirators affords an opportunity to inspect them for repairs. In addition, they should be inspected thoroughly on a periodic basis, the time interval depending on the apparatus, conditions of use, and storage. Equipment for emergency purposes should be inspected once a month and after each use to be sure that it will be in good condition and immediately available if an emergency arises.

When it is necessary to replace worn or deteriorated parts, only those made specifically for the device by the manufacturer should be used, and the repair work should be accomplished by experienced personnel.

G. STORAGE

Respirators should be stored in dustproof containers (original cartons, cases, or plastic bags) away from sunlight, heat, extreme cold, and excessive moisture. A good procedure is to have a central place of storage where the respirators are kept clean. A check-out system, essentially the same as that used for tools, may be used for distribution of respirators to the proper workmen. The respirators should only be issued with the approval of an individual qualified to select the proper protection for exposure.

H. APPROVALS

All respirators provided in the plant should be certified by NIOSH. Bureau of Mines approvals are no longer in effect for any respirators. In some cases, manufacturers of respirators will help substitute approved respirators for non-approved BOM respirators which may still be in the plant. In general, approved respirators carry an approval number prefaced with "TC" and the now non-approved Bureau of Mines respirators have a "BM" prefix to the approval number.

TABLE II

RESPIRATOR SELECTION WORKSHEET

1.	Material -
	a. Chemical Name
	b. Irade Name
	c. Formula
	d. TLV or TWA OSHA 1910.1000 Current ACGIH
9	Form in which it will be used-
4.	
	a. Liquid? b. Solid? c. Gaseous? d. If gaseous, is it an organic vapor? or acid gas?
	Other?
3.	Maximum expected concentration -
`	a. parts per million, or
	a parts per million, or b milligrams per cubic meter.
	•
4.	Will material be heated?
	a. If so, to what temperature? F.
_	
5.	What is the odor threshold of the material?
٠.	At what concentration is the material considered to be immediately
0.	dangerous to life or health?
	dangerous to like of health:
7.	Can the substance be absorbed through the skin?
••	will the base there so absorbed the org. The original
8.	Irritant to eyes? respiratory tract? skin?
9.	At what concentration is it an irritant?
	If the substance is known to be flammable, what are the lower and upper
	`flammable limits, in percent by volume?
	What is the many many of the material O
	What is the vapor pressure of the material?
2	Will material be mixed with other chemicals?if so, give details.
	will haterial be histed with other chemicals:
	·
13.	Any possibility of oxygen deficiency?
4.	Can good ventilation of the area be maintained?
.5.	Will exposure be continuous?or intermittent?
	·
.6.	Will the respiratory device be used for routine exposures, or will it be
	used as an escape device?
7	Provide se much detail se receible secretaries emecume conditions
7.	Provide as much detail as possible concerning exposure conditions.

TABLE III
RESPIRATOR PROTECTION FACTORS

Туре	For	Range
Pressure demand, SCBA	Toxic gases, IDLH, Oxygen deficiency	10,000 x TLV
Emergency escape unit	Hazardous atmospheres, IDLH, oxygen deficiency, escape use only	Below IDLH concentration, oxygen level must be above 19.5% unless escape bottle is attached
Chemical cartridge, full face mask	Chemical hazards, with eye irritants	50 x TLV
Chemical cartridge, half face mask	Chemical hazards	10 x TLV
Half mask, partic- ulate, disposable	Various dusts, mists, and fumes	5 x TLV

Following is a partial list of gaseous materials for which chemical cartridge respirators should not be used for respiratory protection regardless of concentration or time of exposure; this far-from-complete list is offered only as a guide of proper evaluation of the many contaminants found in industry. Contact MSA for further information on other specific materials.

Methylene chloride Acrolein Nickel carbonyl Aniline Nitro compounds: Arsine Nitrobenzene Bromine Nitrogen oxides Carbon monoxide Nitroglycerin · Dasocyanates Ni trome thane Dimethylaniline Dimethylsulfate Ozone Phosgene Hydrogen cyanide Phosphine Hydrogen fluoride Phosphorus trichloride Hydrogen selenide Stibine Hydrogen sulfide Methanol Sulfur chloride Vinyl chloride Methyl bromide Methyl chloride

RESPIRATOR INSPECTION RECORD

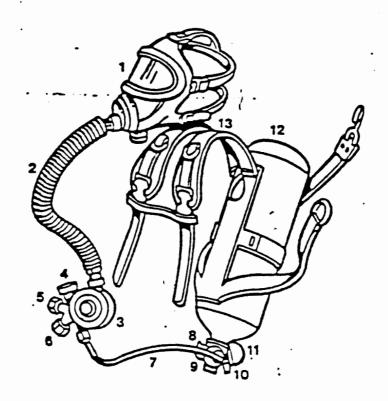
1.	DATE	<u> </u>
2.	NAME	<u> </u>
3.	TYPE	E/NO
4.	DEFE	CCTS FOUND:
	a.	Facepiece
	b.	Inhalation valve
		Exhalation valve
		Head bands
		Cartridge holder
		Cartridge assembly
		Filter
		Harness assembly
	i.	Hose assembly_
		Speaking diaphram_
		Gaskets
		Connections
		Other defects

SELF CONTAINED BREATHING APPARATUS

A. General Information

- 1. An SCBA provides clean air and is independent of the environment.
- 2. This type of respirator should be chosen for the following situations:
 - a. Oxygen-deficient atmospheres
 - b. In concentrations of chemicals over the IDH level
 - c. Where the concentration is unknown
 - d. When the chemical has inadequate warning properties below the permissible exposure limit.
- 3. There are two modes of operation: Demand and pressure demand.
- 4. No respirator, not even an SCBA, protects against contaminants that absorb through the skin or explosions caused by flammable vapors.
- 5. In industrial emergency response applications, entry into the life-threatening environments is not recommended not even with SCBA's. The goal of emergency response is to limit an emergency without risking personal safety.
- 6. Do not use an SCBA if you have the following medical conditions:
 - a. Respiratory infection and/or congestion
 - b. Wear contact lenses
 - c. Punctured eardrum
 - d. Claustrophobia

B. Parts of an SCBA



- 1. mask
- 2. low pressure hose
- 3. regulator
- 4. regulator gauge
- 5: by-pass valve
- 6. regulatory valve

- 7. high pressure hose
- 8. low pressure alarm
- 9. high pressure coupling
- 10. tank gauge
- 11. main valve
- 12. tank
- 13. backpack

- C. RECOMMENDED SELF-CONTAINED BREATHING APPARATUS CHECK-OUT PROCEDURES
- 1. Check cylinder gauge for a "full" indication.
- 2. Check the connection between the cylinder and high pressure hose to assure that it is snug.
- 3. Check by-pass knob it should be fully closed.
- 4. Check main line knob it should be fully open, and the locking ring engaged.
- 5. Make sure don-use switch is in the don (up) position.
- 6. Open cylinder valve and check regulator gauge for comparison to cylinder gauge. (+ 10%)
- 7. Close cylinder valve and watch regulator gauge for "creepage" (one increment on gauge is allowable, more indicates a leak).
- 8. Place mouth over regulator opening and take several breaths to make sure air is flowing.
- 9. With your mouth still over the opening, blow back into regulator until the diaphragm takes a seat. You should <u>not</u> be able to force air back into the system. (Very important step)
- 10. Place palm of hand over regulator opening and switch regulator to "use", (positive pressure) position (down), then slowly allow air to escape while watching regulator gauge. Bell should ring at about 500 psig on regulator gauge.
- 11. Switch regulator to don (up) position, open cylinder valve fully, engage locking ring.
- 12. Put unit on, adjust harness.
- 13. Stretch hose, check overall condition of mask (straps, lens, etc.).
- 14. Put mask on and adjust, starting with bottom straps, then temple straps and finally top strap.
- 15. Place palm over end of hose and inhale slowly until mask is drawn toward face, and hold breath for 10 seconds to see if there is any leakage in the facepiece—to—face seal.
- 16. With palm still over the end of the hose, exhale, noting if there is any leakage around the facepiece. (This step also clears exhalation valve.)
- 17. Connect breathing hose to regulator.
- 18. Always switch regulator to "use", (positive pressure) mode (down) before entry into hostile atmosphere.

D. Maintenance of an SCBA

- 1. SCBA's must be cleaned and sanitized after each use. Procedures are as follows:
 - a. Make sure bottle has been replaced.
 - b. Release all straps to their fully extended position.
 - c. Remove mask.
 - d. Using warm water and mild soap, wash the entire mask, inside and out. Pay special attention to the exhalation valve and underside of mask lip.
 - e. Rinse in running warm water.
 - f. Shake out excess water.
 - g. Blot dry with soft cloth. Avoid scratching faceplate.
 - h. Allow to air dry in a clean, dry place.
 - i. Reattach mask to unit. Store in dust-free box or place mask in a tightly sealed bag to prevent it from getting dirty.
- 2. SCBA tanks must be filled with SCUBA grade air. Contact a local SCUBA shop, fire department or your dealer. Never use air from an unknown source.

LUN - FIT CHECK EVALUATION SHEET

Pre-Donning checklist:

Each E.R.T. member will be evaluated on performance of the following:

- 1. Check cylinder pressure. (1 pt.)
- 2. Check high-pressure coupling. (must be hand tight) (1 pt.)
- 3. Check bypass valve. (should be closed) (1 pt.)
- 4. Check that hoses are in good condition. (1 pt.)
- 5. Straps are not damaged. (1 pt.)
- 6. Mask is in good condition and straps are fully extended. (1 pt.)

Donning:

1. Was SCBA donned in an acceptable manner? (5 pts.)

Fit Check:

1. Did wearer fit check respirator before proceeding with exercise? (5 pts.)

Time of Use Facepiece Seal Fit Check

A) Negative-Pressure Fit Check.

The inlet opening is closed off by covering with the palm of the hand or by squeezing the breathing tube or blocking its inlet so that it will not allow the passage of air. The wearer inhales gently and holds his/her breath for 10 seconds. If the facepiece collapses slightly and the wearer detects no inward leakage of air around the facepiece seal, the fit of the respirator is assumed to be satisfactory.

B) Positive-Pressure Fit Check.

The exhalation valve or breathing tube, or both, is/are closed off and the wearer exhales gently. If the facepiece inflates slightly and the wearer detects no outward leakage of air around the facepiece seal, the fit of the respirator is assumed to be satisfactory.

QUALITATIVE RESPIRATOR FIT TEST RECORD

Employee			Date_		
SSNMai	l Stop	_Org. Code_	Position	Title	
		mfr.		•	
Respirator(s) selec	cted:(1)		,		
					· · · · · · · · · · · · · · · · · · ·
Odor sensitivity to	est(check)	[] 0.4	[] ND [cc stock	k/500 cc water
Taste sensitivity 1	test(check)	[] 10	[] 20 [] 3	0 [] N	D squeezes
Conditions which me	y affect r	espirator fit	test: (che	ck)	
[] Facial scar [] Dentures Ab	esent [] Wrinkles] Ruptured	[]	Other (De	scribe)
			Respir	ator	
Respriator Fit Test	: Performed	: 1	2	3	4
Positive p	ressure	\			
Negative p	ressure	}			
Isoamyl ac	etate -				
Saccharin		·			
Irritant s	moke				
		(P=	passed, F=fa	iled, N=no	ot run)
		mfr.	model		size
Respirator(s) Assig	ned: (1)_				
	(2)_				
Prescription eyegla	ss adapter	required for	full facepio	ece: []	Yes [] No
Comments:					

I have received respirator protection training/fitting and understand the conditions under which it is to be used.

REQUEST FOR RESPIRATOR ISSUE AND APPROVAL

Nan	Last, First,M.I.	Mail	Stop		ate	
	2230, 11130,4616	MELLI	Сор	•		
	Social Security Number	Org.	Code -	Posi	tion Tit	ile .
	TO BE COMPLETED	BY E	MPLOYEE'	S SUPERV	ISOR	
1.	What type of work will the describe and include estimate hours per day respirators	ate o	f number	of days		
2.	What type of exposure - Du	sts_	_Vapor	_Mists_	_Gases	Fumes
3.	Is work considered (please	circ	le)	·		
	Sedentary?	•			Yes	No
	Mild exertion?				Yes	No
	Marked exertion	?			Yes	No
4.	Is SCBA required?				Yes	No
5.	Does job entail working in	hot	environn	ent?	Yes	No
			Superv	isor		te
	TO BE COMPLETE	D BY	EXAMININ	G PHYSIC	IAN	
1.	Date of examination or medi	ical :	review			
2.	Name					
	Type(s) of respirator(s) w	hi c h	can be w	orn		
4.	List potential face-fit pro					
5.	Are spectacle inserts requi	ired :	for full	face pi	ece resp	irators
	Yes	1	No			
6.	Other					
	Physician's signature					

THIS EXAMINATION EXPIRES ONE YEAR FROM THE DATE OF COMPLETION

GENERAL MEDICAL EXAM REQUIREMENTS FOR SCBA WEARERS

The employer is required to make medical exams available to all SCBA wearers (at no cost to employee).

The employer should comply with the following requirements when providing a medical examination performed by or under the supervision of a licensed physician to evaluate an employee's ability to wear a respirator.

- (A) The employer shall provide the physician with the following information in writing:
 - 1. a description of the respiratory hazard;
 - the type of respirator to be used;
 - 3. the expected duration and frequency of use;
 - 4. the nature of the work to be performed including the level of physical effort involved;
 - 5. any special environmental conditions including temperature extremes, use of clothing, and confined space use;
- (B) The employer shall obtain and consider the physician's written recommendation as to any restrictions on the employee's ability to wear the respirator under the conditions of intended use.
 - 1. The employer shall instruct the physician to:
 - a) Not reveal in the written recommendation any specific medical findings or diagnoses; and
 - b) Not reveal to the employer by any means medical findings or diagnoses unrelated to the employee's ability to wear a respirator or to perform the job.
 - 2. The employer shall provide a copy of the written recommendation to the employee.

RELATIONSHIP OF OXYGEN CONCENTRATIONS, DURATION OF EXPOSURE AND EFFECT

Concentration%	Duration	Effect*
20.9	Indefinite	Usual oxygen content of air
19.5	not stated	REHD recommended minimum oxygen content for entry without air supplied respirators. Also OSHA standard 29CFR 1910.
18.0	not stated .	ANSI Z117.1-1977 definition of oxygen deficient atmospheres.
16.0	not stated	Lowest limit of standards reported in literature.
12–16	second to min.	Increased pulse and respiration, impaired judgment, some coordination loss.
10–14	second to min.	Distrubed respiration, fatigue, faulty judgments, emotional upset, poor circulation.
6–10	seconds	Nausea, vomiting, inability to move freely, loss of con- sciousness followed by death
Below 6	seconds	Convulsions, gasping respi- ration followed by cessation of breathing, cardiac arrest, death in minutes.

*Effect - Warning properties of low oxygen are inadequate except to trained individuals. Most persons fail to recognize danger until too weak to effect self-rescue. Signs include increased rate of respiration, and circulation, which accelerates onset of more profound effects, including loss of consciousness, irregular heart action and muscle twitching. Unconsciousness and death can be sudden.

From F.C. Thomas et al., "Guidelines for Confined Spaces," in <u>The Medical</u> Bulletin, summer issue, p.9.

RESPIRATORY PROTECTION QUIZ

- 1. Threshold limit value indicates:
 - a. The maximum life of a cartridge respirator.
 - b. Maximum exposure for a time weighted eight-hour period.
 - c. The limiting factor of respirator use.
 - d. None of the above.
- 2. Air purifying respirators are required for all chemical spills. True or false?
- 3. SCBA air tanks hold six hours of air supply. True or false?
- 4. Smoking tobacco can multiply the effects of toxic materials in the lungs.
 True or false?
- 5. A dust mask can be used for:
 - a. Asbestos.
 - b. Chlorine.
 - c. Lead.
 - d. None of the above.
 - e. All of the above.
- 6. Respirators can not be used in areas where oxygen content is less than:
 - a. 14.5%
 - b. 20%
 - c. 19.5%
 - d. None of the above.
- 7. A fit test for one brand of respirator is good for other brands as long as the size is the same. True or false?
- 8. Lung capacity tests are:
 - a. Required for SCBA use.
 - b. Required for respirator use.
 - c. Not required.
 - d. A and B.
- 9. If a contaminant in an area is unknown, to put on a respirator and enter the room is acceptable. True or false?
- 10. Respirator face pieces should be cleaned in acetic acid solution. True or false?

SCBA QUIZ

1) It shall be assumed (unless otherwise indicated by	
authorized personnel) that atmospheres in an emergency	
response situation which require respiratory protection as	re
immediately dangerous to life and health (IDLH).	

True or False (2 pts.)

2) Define an atmosphere which is immediately dangerous to life or health.

(5 pts.)

Give an example.

(2 pts.)

- 3) Define oxygen deficient atmosphere Immediately Dangerous to Life or Health in terms of percent oxygen by volume at sea level. In other words, at what percentage of O is an atmosphere considered to be IDLH? (2 pts.)
- 4) An SCBA must have a minimum service life rating of 30 minutes for entry, however, SCBA used for emergency escape only (ESCBA), may be of shorter duration.

True or False

(1 pt.)

5) A low pressure audible alarm is designed to indicate when the remaining service life of an SCBA is reduced to within to percent of its rated service life.

(3 pts.)

6) List four disadvantages of SCBA's.

(8 pts.)

List two advantages of SCBA's

(4 pts.)

7) A positive pressure SCBA provides each individual with a known level of protection for a given time period - no matter what the contaminant concentration or conditions.

True or False?

(2 pts.)

8) Positive-Pressure Emergency SCBA should be inspected on a regular basis.

Circle: a. weekly b. monthly c. quarterly d. yearly (2 pts.)

- 9) During an emergency, when is it acceptable to put your SCBA in the demand mode? (2 pts.)
- 10) Briefly describe the storage requirements for SCBA. (7 pts.)

GNB INCORPORATED Y HAZARD COMMUNICATION PROGRAM

T.. 1 .. 1000

HAZARD COMMUNICATION POLICY

GNB Incorporated shall implement a continuing, systematic program to communicate, evaluate, control and record the degree of employee exposure to hazardous chemical and physical agents both regulated and nonregulated.

HAZARD COMMUNICATION PROGRAM

SUMMARY

GNB Incorporated has developed a hazard communication program to enhance employee health and, safety.

The program applies to hazardous agents regulated by legally promulgated health standards and is designed to control exposure at or below the permissible exposure limits prescribed by federal or state regulations and to meet other provisions of such standards.

Potential exposures from which employees are protected through the use of personal protective equipment will also be identified, assessed and documented.

Documentation of the data derived from the assessment of all hazardous agents shall be maintained in a form which complies with legal requirements and provides the information required to support a comprehensive occupational health program for all employees.

The program shall include the following elements:

- Identification of all hazardous chemical and physical agents by workplace
- Employee Exposure Assessment
- Control of unacceptable exposures
- Training and information
- Documentation and recordkeeping

The program requires the identification, assessment and control of exposures to hazardous chemical and physical agents which employees may experience under normal operating conditions and during planned maintenance and shutdowns.

HAZARD COMMUNICATION PROGRAM

OBJECTIVE

The primary objective of the program is to insure that no employee suffers adverse health effects which result from occupational exposures to hazardous chemical and physical agents.

As a company we intend to provide information about chemical hazards, hazardous substances, and their control. This includes Container Labeling, Material Safety Data Sheets (MSDS) and Training.

The following outlines how we will accomplish this objective.

I. CONTAINER LABELING

This responsibility has been assigned to the plant safety director. No container of hazardous substances will be released for use or storage until the following label information is verified:

- Container contents clearly identified.
- Appropriate hazard warnings.
- Manufacturer's name and address

Secondary containers will be labeled to further ensure that employees are aware of hazardous materials used in their work areas.

The plant safety director will ensure that all secondary containers are labeled with either a copy of the original manufacturer's label or with generic labels which have blocks for identity and the hazard warning.

II. MATERIAL SAFETY DATA SHEETS (MSDS)

MSDS's for all hazardous substances to which employees may be exposed are located in the department offices. The plant safety director is responsible for providing proper MSDS's for all materials used or warehoused at any of our facilities. The safety director will be responsible for obtaining and maintaining the data sheet system. The plant safety director will review incoming data sheets for new and significant health/safety information. He will insure that any new infomation is passed on to the appropriate department.

MSDS's are available to all employees in their work area for review during each work shift. If an MSDS is not available or new hazardous substances in use do/not have MSDS's, contact your foreman/manager immediately.

MSDS's will be reviewed for completeness by the plant
safety director
. A new MSDS will be requested from
the manufacturer if an MSDS is missing or obviously
incomplete. The Local Federal OSHA Director will be notified
if an MSDS is not received on a timely basis.

III. TRAINING AND EMPLOYEE INFORMATION

Employees are to attend a health and safety orientation prior to starting work. This will include information and training on the following:

- · Operations in work areas where hazardous substances are present.
- Location and availability of the written hazard communication program.
- * Physical and health effects of the hazardous substances.
- Methods and observation techniques used to determine the presence or release of hazardous substances.
- How to lessen or prevent exposure to these hazardous substances through controlled work practices and personal protective equipment.
- Steps the company has taken to lessen or prevent exposures to these substances.
- Emergency and first aid procedures to follow if employees are exposed to hazardous substances.
- How to read labels and review an MSDS to obtain appropriate hazard information.

When new hazardous substances are introduced, the plant safety director will review the above items as they relate to the new material in your work area in a safety meeting.



LIST OF HAZARDOUS SUBSTANCES

1-12-89

The following is a list of all known hazardous or potential hazardous substances present.

Specific information on each noted hazardous substance can be obtained by reviewing the Material Safety Data Sheets.

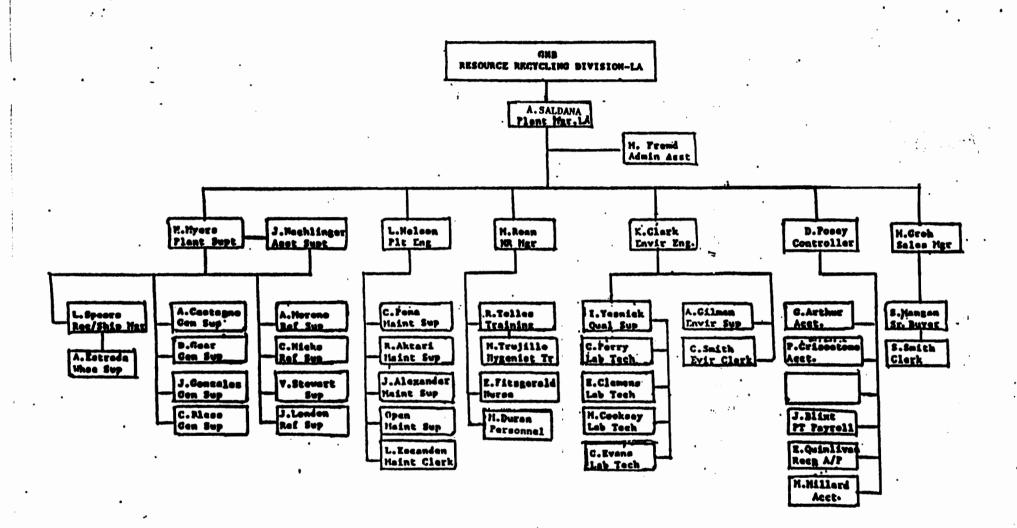
Lead Lead Oxide Lead sulfate Battery acid (20% sulfuric acid) Propane Oxygen - liquid Diesel oil Sodium hydroxide Sodium carbonate Calcium metal Phosphorus - red Ammonium chloride Sulfur Sodium nitrate Aluminum metal Selenium metal Hydrogen - compressed gas Acetylene - compressed gas Argon - compress gas Potassium hydroxide Safety-Kleen solvent Solvent degreaser MR-678 68-A degreaser sodium metasilicate trisodium phosphate Paints, paint thinners and adhesives (petroleum naphtha, petroleum hydrocarbons)

Methyl ethyl ketone
Ferric chloride solution
Betz Entec 321
 acrylate copolymer
Betz Entec 351
 organophosphonate
 phosphate salts, aromatic
Hydrated.lime
Arsenic, metallic
Tennant 601 floor cleaner
Lubricants 705 (Pennzoil)
Degresser SC-X100
Gasoline
Muriatic acid
Hydrogen peroxide



HAZARDOUS SUBSTANCES 1-12-89 Page 2

Rust-Ban 392 (petroleum hydrocarbons)
Rust Pel #42 (mineral spirits)
Unocal Steaval A (petroleum hydrocarbons)
Molub-Alloy 40 (petroleum base lube oil)
Molub-Alloy 5 (petroleum base lube oil)
Molub-Alloy 655 XHT (petroleum base lube oil)
Molub-Alloy 690 XHT (petroleum base lube oil)
Molub-Alloy 777 XHT (petroleum base lube oil)
Molub-Alloy 814 XHT (petroleum base lube oil)
Ridge Nu-Clear (sulfurized petroleum hydrocarbons)
Ridge Dark Cutting Oil (sulfurized petroleum hydrocarbons)
Molub Alloy Chain Oil 22 (petroleum base lube oil)
Plasite 947 Caulking Compound (vinyl ester MEK peroxide)



HAZARDOUS NON-ROUTINE TASKS

Prior to starting work on hazardous non-routine tasks, each effected employee will be given information by their supervisor about hazards to which they may be exposed during such an activity.

This information will include measures that the company has taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

INFORMING CONTRACTORS

It is the responsibility of the plant safety director to provide contractors the following information:

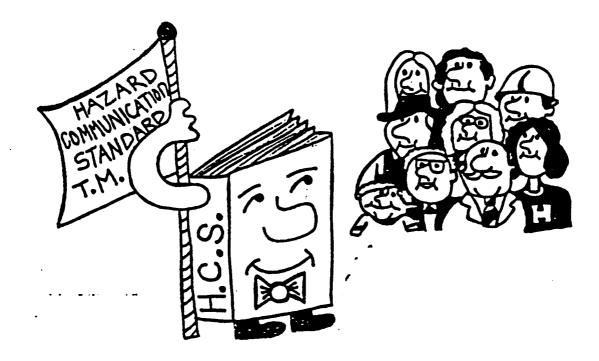
- Hazardous substances to which they may be exposed while on the jobsite.
- Precautions the employees may take to lessen the possibility of exposure by usage of appropriate protective measures.

GENERAL

If anyone has questions about this plan contact the plant safety director. Our plan will be monitored by the M&M Health and Safety Consultant to ensure that the policies are carried out and that the plan is effective.

GNB INCORPORATED

HAZARD COMMUNICATIONS MANUAL



TRAINING MANUAL OUTLINE

I.	INTRODUCTION2
II.	YOUR RIGHTS3
III.	KNOW THE LABELING SYSTEM4-8
IV.	HOW TO READ AND UNDERSTAND AN MSDS9-16
V.	WHERE AND HOW TO GET THE INFORMATION YOU NEED17



You have just watched "Right to Know", a program that illustrates the importance of knowing how to protect your health and safety when working around hazardous substances. Access to information about such substances is your right, as specified under federal standards 29CFR 1910.1200. Even more important, it makes good sense for you to know the nature of potential hazards, the measures you should take to protect yourself, and what to do in case of an accident!! It's your right to know.

A great deal of information is available to you, ranging from warning signs and labels to training and communications programs like this one. Of course, it isn't necessary for you to try to become a technical expert on the hazardous substances you might encounter in the workplace, but it is important to know the general hazards, and precautions for all the materials you work with. And it is important for you to know how and where to find technical data, or other specific information, should the need ever arise.



"YOUR RIGHTS"

- * You have the right to information about the known and suspected health hazards of the toxic substances to which you are exposed in the normal course of employment.
- * You have the right to information concerning the location of any operations where hazardous chemicals are present in your workplace, as well as the location and availability of your written hazard communication program, including the required list of hazardous chemicals and Material Safety Data Sheets in the workplace.
- * You have the right to information in the form of training, on labels and Material Safety Data Sheets, and how to obtain them; specific methods of detecting hazardous chemicals, as well as the hazaards of chemicals in the workplace, and the protective measures that you can take against these hazards.

You have to do something to protect yourself, too. You have to read labels and Material Safety Data Sheets, and naturally, follow their instructions and warnings.

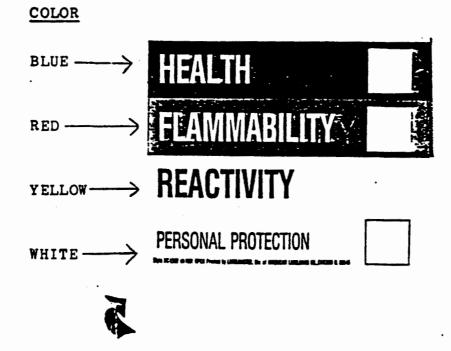
We as an employer have a big responsibility to educate you about chemical hazards and how to stay safe on the job; but it's up to you to follow these instructions.



THE LABELING SYSTEM

The Hazardous Materials Identification system shows everyone how to safely handle the materials they work with.

Each of the colors stands for a specific kind of hazard and the number in that color indicates how much of a potential hazard it is...the white part of the label tells you what kind of protective equipment to wear when working with it.



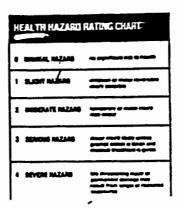
This is the key to the whole system. All of the raw materials in the facility have one of these four colored labels on it.

Let's look at each of these colors separately.

HEALTH

The blue section indicates health. The overall level of the health hazard from contact with the materials is scaled 0-4. 0 is the minimum and 4 the most severe level of the hazard.





There are a lot of ways you can come into contact with materials in the facility---

- * You can get it on your hands.
- * It can splash and soak through your clothes.
- * You can breath the dust or vapors.

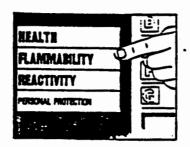
Note: Some materials cause health problems immediately. They are ACUTE Hazards.

Other materials are Chronic Hazards - They take time but with repeated exposure could have disastrous effects.

List, if any, materials in your work area that would be classified as acute:	List, if any, materials in your work area that would be classified as chronic:
	•
	,

FLAMMABILITY

The red section indicates flammability. A 0-4 scale for this section is also used.

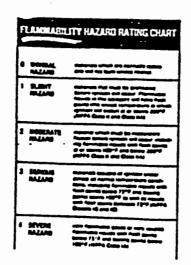




A good number of the materials we use might not burn at room temperature, but if they are heated, they can become flammable. Materials rated zero will not burn unless they are heated to very high temperatures.

List, if any, materials with a flammable rating of 3 or 4 in your work area.

4 rating	3 rating





REACTIVITY

The yellow section indicates how stable the material is.



REACTIVITY HAZARD RATING CHART:	
O MINIMAL NAZARO	materials which are narrhalfy stable, dren under the candidans, and which all has read; with well?
1 SLIGHT NAZARB	motories which are normally stable, but can become unstable at high temperatures and pressures. Those distories may reast with ester but will not reseate energy visionity,
2 MODERATE HAZARD	materials which is themselves are normally state and in receive undergo recent abunda change but sail not despute These metering may also received with such such sections.
3 SERIOUS NAZARO	majoriets which are especies of distancing or especies reaction, but frequire a throug visioning stures, or must be heated under sonknowning geters whichten, or majoriets which readd especies your with water
4 SEVERE NAZARO	Stock materials are readily aspectic of determines or experience decomposition of harmo temperatures and protection.

Very few of the materials we use will explode under any condition. Those that will are handled with great care.

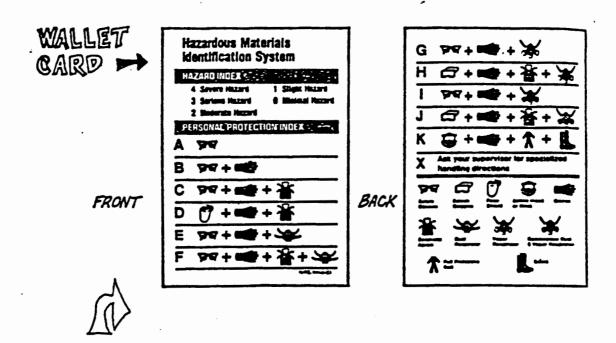
Most chemicals we use are rated zero, which indicates that they are chemically stable even in fire.

PERSONAL PROTECTIVE EQUIPMENT

Our workers are protected in a lot of different ways. Engineering controls are the most important means of protection.

We also have operating procedures and work practices that eliminate a lot of hazards... but sometimes you still need to use personal protective equipment.

The letter in the white section tells you what equipment to wear when you're handling that material. For example, something marked "B" means you have to wear gloves and safety glasses to handle it safely.



You will be provided with a wallet card that explains the system. You need to carry this wallet card with you at all times.

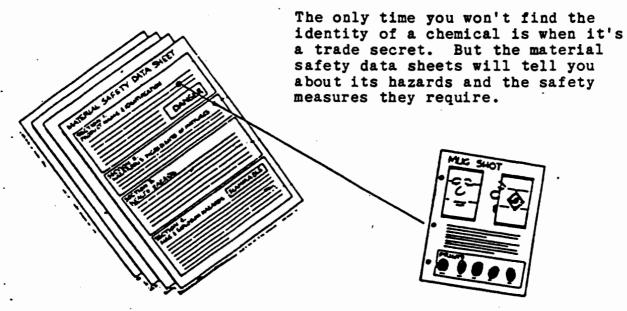
THE MATERIAL SAFETY DATA SHEETS

The Material Safety Data Sheet is your guide to workplace safety.

This basic hazard communication tool gives details on health and physical dangers, safety procedures, and emergency response techniques.

The Material Safety Data Sheet covers:

1. Identity, including the chemical and common names of the substances, its CAS and other identifying numbers, who makes it, and the degree of hazard it presents.



SECTION 1: IDENTIFICATION

Product - commercial or marketing name

Manufacturer's Name & Address - self explanatory

Chemical Trade Name - commercial or, marketing name

Synonyms - approved chemical name, common name and/or synonym

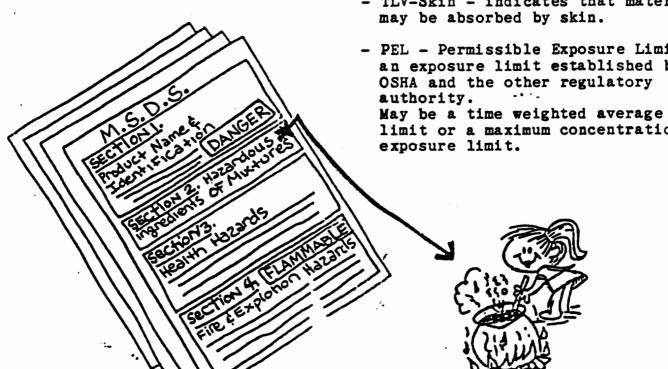
<u>CAS #</u> - number assigned to chemicals or materials by <u>Chemical</u>
<u>Abstract Service.</u>

Chemical Family - group of chemicals with related physical and chemical properties.

SECTION 2: INGREDIENTS

- Materials or Components all materials or components.
- Percentage by Weight of Each Listed Component of a mixture
- CAS # of each component
- HAZARD DATA exposure data. OSHA permissible exposure limit (PEL); American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV); Other Exposure Limits.
 - TLV Threshold Limit Value -American Conference of Governmental Industrial Hygienists' term for allowable exposure levels. May be expressed as:
 - TLV-C ceiling level; this level should never be exceeded
 - TLV-STEL short-term exposure level
 - TLV-Skin indicates that material
 - PEL Permissible Exposure Limitan exposure limit established by OSHA and the other regulatory

limit or a maximum concentration exposure limit.



SECTION 3: HEALTH HAZARD

Health Hazard Data - defines the medical signs and symptoms that may be encountered with normal exposure or overexposure to the material or its components.

a. Rowles of Entry - means by which material may gain access to the body:

Skin absorption - ability to pass through the skin into the blood stream.

Inhalation - the drawing of a substance into the body (lungs) through the nose, mouth and breathing passages in the form of a gas, vapor, mist or dust.

Ingestion - the taking in of a substance into the body through the mouth (swallowing).

b. Nature of Effects and Types - definitions

<u>Acute</u> - effects which occur rapidly as a result of a short-term exposure or short duration, i.e., irritation, corrosivity, sensitization, narcissus, etc.

<u>Chronic</u> - effects which occur as a result of long term exposure and are of long duration; example, carcinogenicity, chronic bronchitis, liver atrophy, etc.

<u>Corrosive</u> - a chemical that causes visible destruction of or irreversible alterations in living tissues, by chemical action at the site of contact.

Sensitizer - a chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissues after repeated exposure to the chemical.

<u>Carcinogen</u> - a chemical which has been shown or suspected of causing cancer if a material is listed in:

- Annual Report on Carcinogens published by National Toxicology Program.
- Regulated by OSHA
- International Agency for Research on Cancer





- 11 -

c. Other Terms

Allergic Reaction - an abnormal physiological response to a chemical or physical stimuli by a sensitive person.

Asphyxiant - a vapor or gas which can cause unconsciousness or death by suffocation - simple and chemical types.

Erythema - a name applied to redness of the skin which may result from exposure to a substance or product.

<u>Mutagen</u> - a substance or agent capable of altering the genetic material of a living cell.

<u>Narcosis</u> - a state of stupor, unconsciousness or arrested activity produced by the influence of narcotics or other chemicals.

Systemic Toxicity - the adverse effects caused by a substance which affects the body in a general rather than a local manner.

Target Organ - that specific organ where the effect of a toxic chemical is evident.

Teratagen - a substance upon exposure to the parent which causes malformations and/or alterations in the appearance or function of the fetus.

d. Toxicity Data - found in NIOSH Registry of toxic effects or other toxicology publications.

 $\overline{\text{LD-50}}$ - lethal dose at which 50% of animal population dies. Note animal species and routes of exposure; administered via injection, skin absorption, etc.

LC-50 - lethal concentration at which 50% of the population dies from airborne inhalation of a substance.

Environmental Toxicity - information obtained as a result of conducting environmental testing designed to study the effects on aquatic and plant life.

141

Skin rashes



Nausea, Dizziness,

SECTION 4: FIRE AND EXPLOSION HAZARD

Fire and Explosion Hazard indicates hazards such as fire and explosion and ways to handle these hazards, such as fire fighting equipment and procedures.

a. Flashpoint - minimum temperature (either C/F) at which a liquid (or volatile solid), gives off sufficient flammable vapors to form, with air, an ignitable mixture.

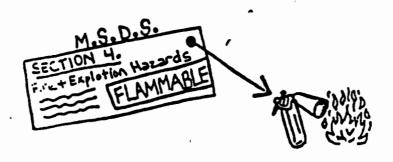
Test Methods: TOC - Tag Open Cup

COC - Cleveland Open Cup

SETA - Seta Flash Closed Tester

TCC - Tag Closed Cup

- b. Flammable Limits Percent of Vol/Air. This area indicates the range of gas or vapor concentrations in the air that may ignite or explode if an ignition source is present.
- c. Autoignition Temperature the approximate temperature at which a flammable gas-air mixture will ignite without a spark or flame. Vapors and gases will spontaneously ignite at lower temperatures in oxygen than in air.
- d. Extinguishing Media appropriate extinguishing agents; water spray, fog, stem/water. CO carbon dioxide; dry 2 chemical a powdered fire extinguishing agent usually composed of sodium bicarbonate, potassium bicarbonate, etc., foam a stable aggregation of small bubbles made by mixing air into a water solution containing a concentrate utilizing suitably designed equipment.
- e. Special Firefighting Procedures appropriate equipment and methods are indicated for limiting hazards encountered in fire situations.
- f. Unusual Fire and Explosion Hazards hazards and/or conditions which may cause fire or exlosion.



SECTION 5: PHYSICAL DATA

Physical Data are items such as:



- a. Boiling Point temperature at which a liquid changes to a vapor state.
- b. Melting Point temperature at which a solid substance begins to change to a liquid state.
- c. Freezing Point temperature at which a liquid will freeze.
- d. Molecular Weight weight of substance based on chemical formula.
- e. Specific Gravity Ratio volume weight of material to equal volume weight of water usually at 60 F., unless otherwise specified.
- f. Vapor Density (Air=1) weight of a vapor or gas compared to the weight of an equal volume of air.
- g. <u>plt</u> measure of the degree of acidity or alkalinity; plt 7 = Neutral; plt 8-14 = alkaline or basic; 1-6 = acidic.
- h. Solubility in H O the percentage of material that will dissolve in water, usually at ambient temperature unless specified otherwise.
- i. % Volatiles by Volume percentage of a liquid or solid, by volume that evaporates at a temperature of 70 F.

Negligible .1% Slight .1% - 1% Moderate /1 - 10% Appreciable 10%

- j. Evaporation Rate usually expressed as a time ratio with ethyl ether = 1 unless specified otherwise.
- k. Appearance and Odor color, physical state at room temperature, size of particles, consistency, odor, as compared to common substances. Odor threshold refers to the concentration required in the air before vapors are detected or recognized.

SECTION 6: REACTIVITY

Reactivity tells you if the substance is stable. You'll learn which substances and situations to keep it away from so it will not react.

- a. Stability determine if material is stable or unstable under reasonable foreseeable conditions of storage, use or misuse.
- b. Incompatibility information on common materials and contaminates with which the product may reasonably come into contact to produce a reaction which would release large amounts of energy.
- c. <u>Hazardous Decomposition Products</u> hazardous materials produced in dangerous amounts by burning, oxidation or by heating in welding, or burning. Thermal decomposition products, such as CO, CO, and hydrochloric acid form vinyl chloride plastics.
- d. <u>Hazardous Polymerization</u> hazardous polymerization is that which takes place at a rate which releases large amounts of energy.
- e. <u>Conditions to Avoid</u> conditions encountered during use, storage or abuse which could cause instability.



Reactivity tells you if the substance is stable. You'll learn which substances and situations to keep it away from so it will not react.

SECTION 7: SPILLS, LEAKS AND DISPOSAL INDICATES

- a. Steps to be taken if material is released or spilled; procedures, precautions and methods of clean-up of spills.
- b. Waste Disposal Methods appropriate disposal methods as required for safety and environmental protection.

SECTION 8: HANDLING AND STORAGE

- a. <u>Ventilation</u> recommended air flow schemes to limit hazardous substances in the air.
- b. General removal of contaminated air from a large area by an air circulation or exchange system.
- c. Local a system for capturing and exhausting contaminants from the air at the point where the contaminates are released.



M.S.D.S. REQUEST PROCEDURE

If you wish to see a certain Material Safety Data Sheet for a product or raw material with which you are working, you have the right to do so, but must follow the following procedural steps.

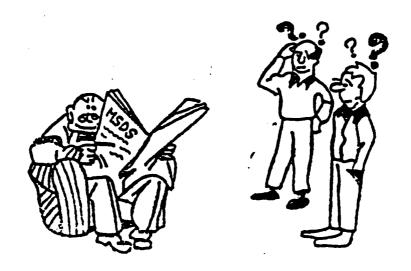
- Contact your immediate supervisor and request to see the needed M.S.D.S.
- 2. Your supervisor will, within a reasonable time, produce the requested M.S.D.S. for your inspection. (Usually at break, lunch or after work).

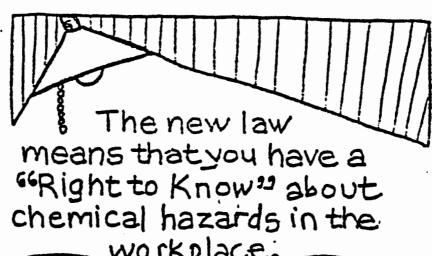
If you wish to have a copy of a particular M.S.D.S. for a product or material with which you are working, you should:

- 1. Request an M.S.D.S. request form.
- 2. Fill the request form out with all necessary information.
- 3. Return the request form to your supervisor.
- 4. Your supervisor will supply you with the M.S.D.S. copy within a reasonable time of your request.

If you have any questions about either the M.S.D.S. or the product or material involved, please direct them to your immediate supervisor.

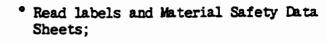
M.S.D.S.'s are located	AT THE DEPARTMENT OFFICE.	_•
The written hazard comm	unication program is located	AT THE TRAINING
MANAGER'S OFFICE.		







But, remember, hazard communication can protect only if YOU:



- Know where to find information about your chemicals;
- * Follow warnings and instructions;
- Use the correct protective clothing and equipment when handling hazardous substances;
- Learn emergency procedures;
- Practice sensible, safe work habits.





A lot is up to YOU now



Your company and the government have gone to a lot of trouble to protect you. But the only person who can keep you safe every day on the job is you. Make these common sense rules part of your job:

- Identify hazards before you start a job;
- Respect all precautions don't take chances;
- Ask your supervisor when in doubt;
- Know in advance what could go wrong and what to do about it;
- Know how and where to get help;
- Learn basic first aid measures.

APPENDIX F RE: SECTION 10 PRE-ARRANGED AGREEMENT LETTERS AND RESPONSES

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

City of Vernon Fire and Rescue 4305 Santa Fe Avenue Vernon, CA 90058

Attn: Hazardous Materials Response Team Dispatcher

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

As such, we have prepared an Emergency Contingency Plan that names your company as a source of equipment, manpower, materials or services that could be available to us should an emergency condition exist at our facility. Location and description of the facility are attached.

In compliance with the regulation, we would like to invite a representative of your facility to meet with us at your earliest convenience to familiarize you with our operation and establish plans to handle any emergency that might arise in the future. If a personal visit is not deemed necessary, a phone call to discuss the subject would be greatly appreciated.

Since this request is based on a regulatory standard, we would appreciate your timely response as to whether or not you can assist us in establishing a pre-arranged plan to handle matters within your area of expertise.

Thank you for your assistance.

Yours very truly,

GNB Incorporated

Kenneth G. Clark Tech. & Envir. Manager

Kenneth & Clark

cc: Regional Director Plant Manager

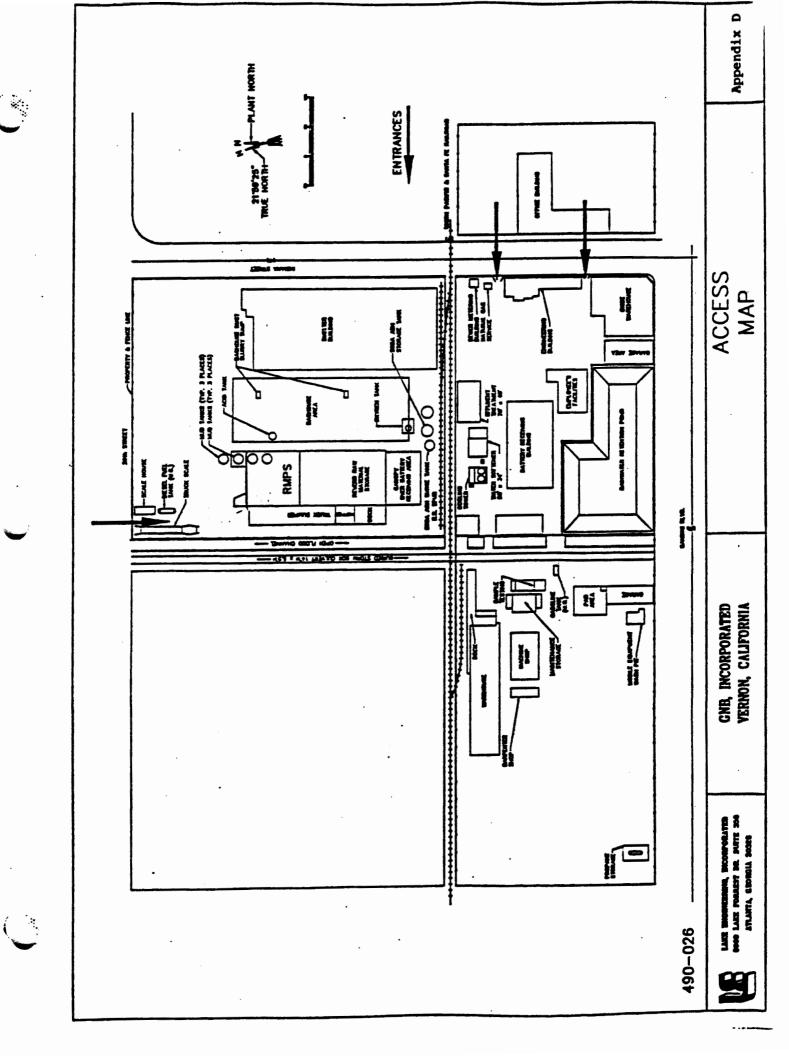
Enclosure

Description of the Facility:

GNB Incorporated 2700 S. Indiana Street Vernon, CA 90023

Processes:

Recycles lead-acid batteries and battery manufacturing scrap to produce lead and lead alloys. Spent batteries and battery manufacturing scrap are separated into their various components and processed. Lead parts are processed by blast furnace or reverberatory furnace. Battery cases are broken, drained, and chipped. The acid is neutralized. Chips from the cases are washed and separated into rubber or plastic components. Plastic chips are sold to a reclaimer.



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GNB Incorporated

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

City of Vernon Police Department 4305 Santa Fe Avenue Vernon, CA 90058

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Thank you for your assistance.

Yours very truly,

GNB Incorporated

Kenneth G. Clark

Tech. & Envir. Manager

Kenneth & Clark

cc: Regional Director Plant Manager

Enclosure

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Victoria Company Company

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Los Angeles County Sheriff 11515. Colima Road Whittier, CA 90604

Attn: Hazardous Waste Unit Dispatcher

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Tech. & Envir. Manager

Kenneth S. Clark

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GNB incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Telegraph Medical Clinic 6538 Telegraph Road Commerce, CA 90040

Attn: Emergency

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Tech. & Envir. Manager

Kenneth & Clark

cc: Regional Director Plant Manager

Enclosure

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GNB Incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



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Septmber 27, 1988

Beverly Hospital 2nd and Harding Montebello, CA 90640

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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GNB Incorporated

Kenneth G. Clark

Tech. & Envir. Manager

Kenneth S. Clark

cc: Regional Director

Plant Manager

Enclosure

GNB Incorporated

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Rio Hondo Hospital 8300 E. Telegraph Road Downey, CA 90240

Gentlemen:

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Kenneth & Clark

cc: Regional Director Plant Manager

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GNB Incorporated

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Spectrum Industrial Medical Clinic, Inc. 4730 Eastern Avenue Commerce, CA 90040

Gentlemen:

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Kenneth G. Clark Tech. & Envir. Manager

cc: Regional Director Plant Manager

Enclosure

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· AND STREET,
2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

California Office of Emergency Services Hazardous Materials Division 2800 Meadowview Road Sacramento, CA 95832

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Tech. & Envir. Manager

Kennett S. Clark

cc: Regional Director Plant Manager

Enclosure

GNB Incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Kerr-McGee Chemical Company 2975 Wilshire Blvd. Los Angeles, CA 90051

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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cc: Regional Director Plant Manager

Enclosure

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

FMC Chemicals 15453 Gale Avenue City of Industry, CA 91745

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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In compliance with the regulation, we would like to invite a representative of your facility to meet with us at your earliest convenience to familiarize you with our operation and establish plans to handle any emergency that might arise in the future. If a personal visit is not deemed necessary, a phone call to discuss the subject would be greatly appreciated.

Since this request is based on a regulatory standard, we would appreciate your timely response as to whether or not you can assist us in establishing a pre-arranged plan to handle matters within your area of expertise.

Thank you for your assistance.

Yours very truly,

GNB Incorporated

Kenneth G. Clark Tech. & Envir. Manager

Kennet & Clark

cc: Regional Director Plant Manager

Enclosure





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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

General Chemical Company P. O. Box 44131 San Francisco, CA 94144

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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GNB Incorporated

Kenneth G. Clark

Kenneth S. Clark

Tech. & Envir. Manager

cc: Regional Director Plant Manager

Enclosure

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

A. J. Lynch Company 4560 E. 50th Street Los Angeles, CA 90058

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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GNB Incorporated

Kenneth G. Clark

Tech. & Envir. Manager

Kenneth & Clark

cc: Regional Director Plant Manager

Enclosure

GNB Incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Van Waters and Rogers 5353 Jillson Street Los Angeles, CA 90040

Gentlemen:

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Kenneth S. Clark
Renneth G. Clark

Tech. & Envir. Manager

cc: Regional Director Plant Manager

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Industry Equipemnt Rentals 822 South Nogales City of Industry, CA 91748

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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GNB Incorporated

Kenneth G. Clark

Tech. & Envir. Manager

Kenneth B. Clark

cc: Regional Director Plant Manager

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Clarklift of Los Angeles 8314 E. Slauson Avenue Pico Rivera, CA 90660

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Yours very truly,

GNB Incorporated

Kenneth G. Clark Tech. & Envir. Manager

Kinneth & Clark

cc: Regional Director Plant Manager

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

J & J Rentals 13628 Valley Boulevard City of Industry, CA 91746

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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GNB Incorporated

Kenneth G. Clark

Tech. & Envir. Manager

Kenneth S. Clark

cc: Regional Director Plant Manager

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Adco Equipment P. O. Box 2100 City of Industry, CA 91746

Gentlemen:

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Kenneth & Clark Kenneth G. Clark

Tech. & Envir. Manager

cc: Regional Director Plant Manager

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GNB Incorporated

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Oil Process Company 5756 Alba Street Los Angeles, CA 90058

Attn: Al Thompson

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Kenneth G. Clark Tech. & Envir. Manager

Kennett & Clark

cc: Regional Director Plant Manager

Enclosure

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

JC Inc. 3650 E. 26th Street Vernon, CA 90023

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Kenneth G. Clark

Tech. & Envir. Manager

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cc: Regional Director Plant Manager

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GNB Incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Disposal Control Services 1369 W. 9th Street Upland, CA 91786

Gentlemen:

In compliance with the rules and regulations of the California Department of Health Services, Toxic Substances Control Division, and as required by California Administrative Code, Division 4, Chapter 30, Article 19, Paragraph 67126, this letter is notice that GNB Incorporated at 2700 South Indiana Street, Vernon, California, operates a manufacturing plant that handles material that is classified as hazardous waste and includes an on-site waste treatment facility that is classified as a hazardous waste treatment facility.

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Kenneth G. Clark

Kenneth S. Clark

Tech. & Envir. Manager

cc: Regional Director Plant Manager

Enclosure

GNB Incorporated

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2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

J. H. Kleinfelder & Associates
901 W. Victoria Street 17/00 PIONEER BLVD.
Gompton, CA 90220 ARTESIA, CA. 90701-2700

Gentlemen:

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GNB Incorporated

Kennett S. Clark
Renneth G. Clark

Tech. & Envir. Manager

cc: Regional Director Plant Manager

Enclosure

GNB Incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



September 27, 1988

Woodward-Clyde Consultants 203 N. Golden Circle Drive Santa Ana, CA 92705

Gentlemen:

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Kennett & Clark
Kenneth G. Clark

Tech. & Envir. Manager

cc: Regional Director Plant Manager

Enclosure

KGC:mlf

POLICE DEPARTMENT



LEONIS C. MALBURG, CHAIRMAN THOMAS A. YBARRA WILLIAM M. MCCORMICK

POLICE HEADQUARTERS
4305 SANTA FE AVENUE



L.A. ESPINOZA POLICE CHIEF



PHONE 587-5171

CITY HALL

4305 SANTA FE AVE.. VERNON, CALIF. 90058

October 7, 1988

Mr. Kenneth G. Clark Technical & Environmental Manager 2700 S. Indiana St. Los Angeles, CA 90023

Mr. Clark:

With reference to our meeting of October 7, 1988 regarding the contingency plan which is presently being prepared by GNB Inc., I would like to inform you that members of the Vernon Police Department would respond and assist as needed in the safe evacuation of GNB Inc. employees in the event of a toxic or hazardous incident that may take place.

Very truly yours,

VERNON POLICE DEPARTMENT

L. W. BROWN LIEUTENANT

LWB/mlc

BEVERLY HOSPITAL

309 WEST BEVERLY BOULEVARD, MONTEBELLO, CALIFORNIA 90640 ● PHONE (213) 726-1222 ● 723-0951

October 19, 1988

Mr. Kenneth G. Clark, Tech. & Envir. Manager GNB INCORPORATED 2700 South Indiana Street P.O. Box 23957 Los Angeles, California 90023-0957

Dear Mr. Clark:

In reference to your letter of September 27, 1988 naming Beverly Hospital in your GNB Emergency Contingency Plan as a service source.

Beverly Hospital operates an Emergency Room 24 hrs. a day, 7 days a Week. We would be able to treat patients from your facility within the limits of our capabilities. The local Paramedic Units can provide for transportation to the Hospital.

If I can be of further assistance, please do not hesitate to contact me at (213)-725-4221.

Sincerely,

Richard Taylor

General Services Manager

RT:1b

SPECTRUM INDUSTRIAL MEDICAL CLINIC, INC. DAVID B. LANDERS, M.D. (AMICHAEL A. MIRKOVICH, M.D.

October 4, 1988

GNB Incorporated Kenneth G. Clark Tech. & Envir. Manager 2700 S. Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957

Re: CAL Admin. Code/Emergency Contingency Plan

Dear Mr. Clark:

Thank you for your letter of September 27, 1988 regarding the above.

Spectrum Medical is an occuaptional specialty treatment and evaluation center. As such, we are familiar with the ECP requirements for our clients.

We are pleased to be listed in your ECP document and are cognizant of the requirements of such.

We are familiar with the GNB facility from having visited previously and upon our close working relationship with your medical department. We review each and every Pre-Placement Physical Examination and Occupational Injury/Illness case with Ellie Fitzgerald, R.N.

Dr. Mirkovich and I are also especially familiar with lead and the requirements of the lead standard.

Rest assured that we stand ready to assist you should the need every arise on an emergency basis.

Best wishes.

Sincerely,

David B. Landers, M.D.

Medical Director

DBL:dl

4730 EASTERN AVENUE COMMERCE, CALIF. 90040 (213)728-9078

FMC Corporation

Chemical Products Group 15453 Gale Avenue City of Industry California 91745 818 330 0686



October 11, 1988

Mr. Kenneth G. Clark
Technical & Environmental Manager
GNB Incorporated
2700 South Indiana Street
Los Angeles, California 90023-0957

Dear Ken:

Thank you for taking time out of your busy day to show me around your facility. Your description of the process was very informative and I feel that we, as your supplier, have a better understanding of how to best meet your needs.

In reference to your letter of September 27, 1988, we at FMC will lend any assistance that we can, should an emergency arise. As we discussed, this assistance will most likely be in the form of emergency supplies of Soda Ash for spill treatment. If this should become necessary we can be reached at the following numbers:

Office (8:00 a.m. to 4:30 p.m., M-F)	(818)	330 – 0 6 86
Bill DeKleine (home)	(714)	595-8800
Tom Taft (home)	(818)	961-2730
Lynda Hawthorne (home)	(818)	968-5834

If there is anything more we can do for you at this time, please let me know.

Sincerely,

William C. DeKleine

Distribution Center Manager

WCD:1h

A. J. LYNCH



4560 EAST 50th STREET LOS ANGELES, CALIFORNIA 90058 (213) 583-2271 FAX: (213) 588-7486



8707 SAN LEANDRO STREET OAKLAND, CALIFORNIA 94621 (415) 632-2520

PLEASE REPLY TO 4560 EAST 50TH STREET LOS ANGELES, CALIF. 90058

October 7, 1988

Mr. Kenneth G. Clark GNB INCORPORATED 2700 S. Indiana St. Los Angeles, CA. 90023

Dear Mr. Clark:

We acknowledge receipt of your letter of September 27th, advising that you are a hazardous waste treatment facility, and that in an emergency situation, could require the availability of Sodium Hydroxide, or technical assistance.

In case of an emergency during regular business hours, please note our phone number above. Ask for Mr. Erickson or Mr. Morgan for technical assistance, or Oscar for product help.

If an emergency occurs during other than regular business hours, please call 714/551-0951 for Joe Wright. He will be able to contact the proper party to give you any assistance you require.

Very truly yours,

JLW/dc



RENTALS • SALES • SERVICE

P.O. Box 2100 / City of Industry, CA 91746

(213) 695-0748 (714) 670-0333

October 10, 1988

GNB Incorporated 2700 South Indiana Street P.O. Box 23957 Los Angeles, CA. 90023-0957 ATTN: Mr. Ken Clark

Dear Ken,

In reference to your letter dated 9-27-88 and our conversation of 10-7-88, Adco is prepared to provide the necessary equipment to you and your company when the time comes. Adco appreciates you listing us as one of your suppliers, if an emergency should take place. We would also welcome the opportunity to service you with equipment at other times, as your needs come up.

If there are any other questions, please do not hesitate to call.

Sincerely,

Lance Sorenson

Sales Representative



October 5, 1988

GNB Incorporated Kenneth G. Clark Tech. & Envir. Manager 2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957

Dear Mr. Clark:

We are in receipt of your letter dated September 27, 1988. After visiting your plant and observing your operation, we are studying your application.

Literature and a business card of Oil Process are now in your possesion. We will notify you of our observations of the washed battery chips with 2% lead, antimony, and arsenic in your rolloff, soon. In the meantime, Oil Process' expertise for spills, emergencies, and similar contingencies are available.

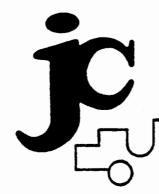
Thank you for your interest and kindness during my tour.

Robert Anderson

Oil Process Company

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INCORPORATED

Liquid Wasto Disposal

October 18, 1988

Mr. Kenneth G. Clark GNB INCORPORATED Post Office Box 23957 Los Angeles, CA 90023-0957

Dear Mr. Clark:

This letter is in response to your letter of September 27, 1988 and our meeting on October 11, 1988.

J.C. Transportation, Inc. is qualified as a source of equipment, manpower, materials and services to be available to GNB should an emergency condition exist there.

Our facilities are available on a seven day a week, 24 hours per day basis. Simply call our dispatcher at the phone number listed below with as much information as you have regarding the emergency and we will send the necessary crews and equipment.

We appreciate the opportunity to serve you, should you have any questions, please call me.

Respectfully,

JC INC. LIQUID WASTE DISPOSAL

R. L. Moss

RLM/br

DISPOSAL CONTROL SERVICE, INC.

1369 W. 9th Street, upland, caufornia 91786 (800) 824-3345 (714) 983-0342

October 19, 1988

GNB Incorporated 2700 South Indiana Street Los Angeles, CA 90023 Attention: Ken Clark

Dear Ken:

SUBJECT: Your letter dated September 27, 1988

Thank you for your extended courtesy during our facility visit. We have established a file with all of the relevant blueprints and data you supplied which outlines the location of your chemical storage areas as well as, the various components of your overall process.

If an emergency response becomes necessary this information will allow our responding personnel to have advance information, that will also expedite the response, and result in reduced costs.

From time to time we will visit and/or call to keep our file updated.

We are enclosing our company data, references, copies of permits and licenses, and an insurance certificate for your files.

Very truly yours, DISPOSAL CONTROL SERVICE, INC.

JEANNE DELPERDANG

E.R. Project Coordinator/Chemist

JD/tt

Enclosures

203 North Golden Circle Drive Santa Ana, CA 92705 (714) 835-6886 (213) 581-7164 Telex 68-3420

Woodward-Clyde Consultants



30 September 1988 Project No. 8841996D

GNB Incorporated 2700 South Indiana Street Los Angeles, CA 90023

Attention: Mr. Ken Clark

Technical and Environmental Manager

SUBJECT: ASSISTANCE OF WOODWARD-CLYDE CONSULTANTS DURING

PLANT EMERGENCY CONDITIONS

Dear Ken:

Woodward-Clyde Consultants is in receipt of your letter dated 27 September 1988 asking that we be available to assist GNB Incorporated should an emergency condition exist at the Vernon plant. We would be happy to assist GNB Incorporated in any way that we can during a plant emergency condition.

Yours truly,

WOODWARD-CLYDE CONSULTANTS

Steve Mulligan

Senior Project Engineer

Steve Mulligan

SM/jn (SM/GNB-01)



APPENDIX G RE: SECTION 11 ENVIRONMENTAL PERMITS

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SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "TO4"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

- A. EPA HAZARDOUS WASTE NUMBER Enter the four-digit number from 40 CFR, Support D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteris tics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste/s/ that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

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If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code/s) from the list of process codes contained in Item II to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code/s/ from the list of process code contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that posses that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes, if more are needed: (1) Enter the first three as described above; (2) Enter *000* in the Note: Four spaces are provided for entering process. In the space provided on page 4, the line number and the additional code(s) extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s)

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form,

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN DNE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows: 🔑 1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annua

quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste, in column D(2) on that line enter "included with above" and make no other entries on that line.

3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pound per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

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V. FACILITY DRAWING All existing facilities must include in the space provided or			tions for more detail).	Samuel Comments of the Comments
VI. PHOTOGRAPHS				ing the property of the second
All existing facilities must include photographs (as	rial or ground—level,	that clearly delineate a	il existing structures:	existing storage,
treatment and disposal areas; and sites of future sto		fisposal areas (<i>see instru</i>	ctions for more detai	1).
VII. FACILITY GEOGRAPHIC LOCATION		LONGI	UDE (degrees, minutes,	& seconds) was being the
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VIII, FACILITY OWNER		ritin afternister in the section	Property of Seasons	建筑 对于成为各个的
XXXA. If the facility owner is also the facility operator as	fisted in Section VIII o	n Form 1, "General Inform	nation", place an "X" in	the box to the left and
skip to Section IX below.				
B. If the facility owner is not the facility operator as	listed in Section VIII o	n Form 1, complete the fo	flowing Items:	
I. NAME OF FACE	LITY'S LEGAL OWN	ra jāļi mai tela	Zi Pl	ONE NO. (eres code # no.
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3. STREET OR P.O. BOX	£	4. CITY OR TOWN	S.ET.	SAULE CODE
F	G 41 15 15 15 15 15 15 15	•	47 41 42	
IX. OWNER CERTIFICATION				
I certify under penelty of law that I have personally				
documents, and that based on my inquiry of those is submitted information is true, accurate, and complete.				
including the possibility of fine and Imprisonment				
A. NAME (print or type)	. B. SIGNATURE		C. DATE	EIGNED
Edward L. Puckett	10	6/1/1		2
General Manager	1 /27	must	2	-7-91
X, OPERATOR CERTIFICATION	のなるとのない			ering a park to the contract of the
rentify under penalty of law that I have personally				
numents, and that based on my inquiry of those is submitted information is true, accurate, and complete				
including the possibility of fine and imprisonment.				
A. NAME (print or type)	B. BIONATURE	7	C. DATE	SIGNED
Edward L. Puckett General Manager	51	WIH	7.	7-91
	- 6	mul	0	CONTINUE ON PAGE
EPA Form 3510-3 (6-80)	PAGE 4	OF 5	•	CONTINUE ON FAGI

V. FACILITY DRAWING (see page 4)

See attached Operation Plan



HEADQUARTERS, 9150 FLAIR DR., EL MONTE, CA 91731

NOVEMBER 06, 1990

GNB INCORPORATED 2700 S INDIANA ST

VERNON

CA - 90023

ID - 044551

PERMIT RENEWALS

PERMIT		APPLIC	EXPIRATION
NUMBER	DESCRIPTION	NUMBER	DATE
M40004	BAGHOUSE - VALID FOR INACTIVATION ONLY	123780	11/01/91
M49905	BAGHOUSE - VALID FOR INACTIVATION ONLY	123781	11/01/91
M34466	OTHER AGGREGATE CONVEYING	123782	11/01/91
M40009	FURNACE REVERB (SWEATING) LEAD & TYPE	123801	11/01/91
M40012	BAGHOUSE - VALID FOR INACTIVATION ONLY	123805	11/01/91
M56001	BAGHOUSE - VALID FOR INACTIVATION ONLY	127145	11/01/91
M56003	FURNACE CUPCLA LEAD & TYPE METAL	127247	11/01/91
	BAGHOUSE, HOT		
M56006	SODA ASH CONVEYING	137012	11/01/91
M56007	PLASTIC/RESIN SIZE REDUCTION	147525	11/01/91
	MIST CONTROL		
M56008	FURNACE POT LEAD & TYPE METAL	151106	11/01/91
	BAGHOUSE - VALID FOR INACTIVATION ONLY		
M56009	PLASTIC/RESIN SIZE REDUCTION	153916	11/01/91
	MIST CONTROL		
022935	FURNACE POT LEAD & TYPE METAL	178384	11/01/91
022932	FURNACE POT LEAD & TYPE METAL	178385	11/01/91
D22933	FURNACE POT LEAD & TYPE METAL	178386	11/01/91
023197	FURNACE POT LEAD & TYPE METAL	178387	11/01/91
023195	FURNACE POT LEAD & TYPE METAL	178388	11/01/91
023196	FURNACE POT LEAD & TYPE METAL	179391	11/01/91
D22934	FURNACE POT LEAD & TYPE METAL	178392	11/01/91
D22931		178393	11/01/91
M95180		-1 83390	11/01/91
023190	STORAGE TANK FX RF W/CTL LPG	192994	11/01/91



For Information Cail - 818-307-2200

Invoice No.

044551-09-90

California Health and Safety Code Section 40510 and South Coast Air Quality Management District Rule 301 authorizes the District to charge permit fees on the equipment identified below.

Mail Remittance To: 9150 Flair Dr., El Monte, Ca. 91731

EQUIPMENT LOCATED AT:

2700 S INDIANA ST

INVOICE DATE

09/11/90

VERNON

900230000

ANNUAL BILL MONTH NOVEMBER

CO. ID. OR OPERATOR:

844551

GNB INCORPORATED

P.O. BOX 23957

LOS ANGELES

CA 900230957

TRANSACTION NUMBER	TRANSACTION DATE	REFERENCE NUMBER	DESCRIPTION	TRANSACTION AMOUNT	TRANSACTION BALANCE
01300364	082190	183380	APPLICATION EVALUATION FEE LEAD SCRAP SPELTING SYSTEM	185.00	185.0
01341555	091190	178382	TEMP. ANNUAL FEE	1,200.00	1.200.0
01341556	091190	178383	APC SYSTEM #2 TEMP. ANNUAL FEE	1,200.00	1,200.0
01341557	091190	178389	FURNANCE #1 TEMP. ANNUAL FEE	500.00	500.00
n1341558	091190	178394	FURNANCE #6 TEMP. ANNUAL FEE	500.00	500.00
01341559	091190	178395	FURNANCE #7 TEMP. ANNUAL FEE	500.00	500.01
01341560	091190	178396	FURNANCE #8 TEMP. ANNUAL FEE	500.00	500.00
01341561	091190	178397	FURNANCE #9 TEMP. ANNUAL FEE	500-00	500.00
01341562	091190	178893	APC SYSTEM TEMP. ANNUAL FEE	1,200.00	1,200.00
01341563	091190	178390	TEMP. ANNUAL FEE	500.00	500.00
01341564	091190	167288	ACID NEUT. & WATER TREAT. SYS	500.00	500.00
01341565	Ó 911 90	167289	SCRUBBER SOLUTION MIX SYSTEM TEMP. ANNUAL FEE	150.00	150.00
9.1341566	091190	167286	TEMP. ANNUAL FEE	150.00	150-00
01341567	091190		NEW SCREW CONVEYOR TEMPS ANNUAL FEE	150.00	150.00
01341568	891190		SODIUM CARBONATE BIN TEMP. ANNUAL FEE SODIUM CARBONATE REC & STORAG	500.00	500-06

payment not received by If payment not received by application/permit will be delinquent.

application/permit will expire. Operation of equipment without a

permit subjects owner or operator to misdemeanor or civil penalties for each day of operation.

Please return duplicate copy with remittance.

"Make check payable to South Coast A.Q.M.D."

CONTINUED

044551-09-90

For information Call - 818-307-2200 Mail Remittance To: 9150 Flair Dr., El Monte, Ca. 91731

California Health and Safety Code Section 40510 and South Coast Air Quality Management District Rule 301 authorizes the District to charge permit fees on the equipment identified below.

EQUIPMENT LOCATED AT:

2700 S INDIANA ST

INVOICE 09/11/90 DATE

VERNON

900230000

ANNUAL BILL MONTH NOVEMBER

CO. ID.

LEGAL OWNER OR OPERATOR: 044551

GNB INCORPORATED

P.O. BOX 23957

LOS ANGELES

900230957

TRANSACTION NUMBER	TRANSACTION DATE	REFERÊNCE NUMBER	DESCRIPTION	TRANSACTION AMOUNT	TRANSACTION BALANCE
01343703	091190	D23190	ANNUAL BILLING FURNACE POT LEAD & TYPE METAL	150.00	150.00
01343704	091190	023195	ANNUAL BILLING FURNACE POT LEAD & TYPE METAL	500.00	500.00
01343705	091190	023196	ANNUAL BILLING FURNACE POT LEAD & TYPE METAL	500.00	500.00
01343706	091190	023197	ANNUAL BILLING STORAGE TANK GASOLINE	500.00	500-00
01343707	091190	M95180	ANNUAL BILLING	150.00	150.00
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REMARKS:PLEASE RETURN THE DUPLICATE COPY OF THIS INVOICE WITH YOUR REMITTANCE TO ENSURE PROPER CREDIT TO YOUR ACCOUNT. IF YOU HAVE ANY QUESTIONS PLEASE CALL (818) 307-2200

BALANCE NOW DUE \$20,285.00

f payment not received by 11/01/90 If payment not received by 12/01/90 application/permit will be delinquent.

application/permit will expire. Operation of equipment without a permit subjects owner or operator to misdemeanor or civil penalties for each day of operation.

"Make check payable to South Coast A.Q.M.D."



For Information Call - 818-307-2200 Mail Remittance To: 9150 Flair Dr., El Monte, Ca. 91731

U44551-15-90

California Health and Safety Code Section 40510 and South Coast Air Quality Management District Rule 301 authorizes the District to charge permit fees on the equipment identified below.

YIPMENT ATED AT:

2700 S INDIANA ST

INVOICE 12/03/90

LOS ANGELES

CA 90023

ANNUAL BILL MONTH NOVEMBER

LEGAL OWNER

LEGAL OWNER OR OPERATOR: 044551

GNB INCORPORATED

P.O. BOX 23957

LOS ANGELES

CA 90023-0957

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01405037			APPLICATION EVALUATION FEE	4 4 1	
	112990			1,450.00	1,450.0
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		178389	PERMIT EVAL - ADJ.	850-00	350.0
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01405369	112990	178390	APPLICATION EVALUATION FEE	175.00	175.0
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01405370	112990	178390	PERMIT EVAL. ADJ.	212.50	212.5
ļ			FURNACE POT LEAD & TYPE METAL		
01405371	112990	178394	APPLICATION EVALUATION FEE	175-00	175.0
			FURNACE POT LEAD & TYPE METAL		
405372	112990	178394	PERMIT EVAL. ADJ.	212.50	212.5
			FURNACE POT LEAD & TYPE METAL		
01405373	112990	178395	APPLICATION EVALUATION FEE	175.00	175.0
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01405374	112990	178395	PERMIT EVAL. ADJ.	212.50	212.5
			FURNACE POT LEAD & TYPE METAL		
01405375	112990	178396	APPLICATION EVALUATION FEE	175.00	175.0
			FURNACE POT LEAD & TYPE METAL		
01405376	112990	178396	PERMIT EVAL. ADJ.	212.50	212.5
			FURNACE POT LEAD & TYPE METAL		. == .
01405377	112990	178397	APPLICATION EVALUATION FEE	175.00	175.0
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If payment not received by 02/01/91 hayment not received by 03/01/91

application/permit will be delinquent.

application/permit will expire. Operation of equipment without a

permit subjects owner or operator to misdemeanor or civil penalties for each day of operation.

IF YOU HAVE ANY QUESTIONS PLEASE CALL (818) 307-2200

\$4,237.50



SOUTH COAST AIR RUALITY MANAGEMENT DISIRICT

9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

M: 40004

Sporation under this permit must be sendected in compliance with all information included with the initial copliantion and the initial permit conditions. The equipment must be proporly emistalized and kept in good operating condition at all times. In accordance with this 364, this formit to Sporate or copy must be posted on or within 8 enters of equipment.

LEGAL OWNER OR OPERATOR:

GMB BATTERIES INC. 2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA

APPL. NO. 123780 PREYIOUS PERMIT NO. M39107

EQUIPMENT LOCATED ATI

EQUIPMENT BESCRIPTION AND CONSITIONS:

AIR POLLUTION CONTROL SYSTEM NO. 5 CONSISTING OF:

1. BAGHOUSE, EIGHT COMPARTMENTS, 64,000 SQ. FT. FILTER AREA WITH EIGHT 2 N.P. SHAKERS AND AN EMERGENCY AIR-BLEED-IN DAMPER.

EXHAUST SYSTEM WITH A 450 M.P. BLOWER YENTING BLAST FURNACE THINBLE, LEAD WELL, SLAG TAP, TWO LAUNDERS, GENERAL FEED FLOOR HOOD, TWO RECEIVING FURNACES, FIYE REFINING FURNACES AND SEVEN DROSS HOPPERS.

This initial permit must be renewed by

unless the equipment is moved, or changes ownership, if billing for annual renewal fee

thule 301.ft not received by expiration date, contact office above.

This permit does not authorize the encation of air contaminants in escape of these a Bored by Bivision 26 of the Bealth and Safety Code of the State of California or the Bules of the Air Guality Henagement District. This permit connect be considered as permission to violate axisting loss, ordinances, regulations or statutes of ather government appeals.

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PERMIT to OPEITATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

40005

Operation under this permit must be sendected in conclines with all information included with the initial application and the initial permit good clines. The equipment must be preseriy meiatained and kept in good operating condition at all times. In accordance with Rule 206, this family to Operate or copy must be sented on or within 8 nature of equipment.

LICIL PAICE OF OFERATOR:

GNB BATTERIES INC. 2700 SOUTH INDIANA STREET

LOS ANGELES, CALIFORNIA

APPL. NO. 123781 PREVIOUS PERMIT NO. M39108

EQUIPMENT LOCATED ATI

EQUIPMENT SESCRIPTION AND COMPITIONS:

AIR POLLUTION CONTROL SYSTEM NO. 6 CONSISTING OF:

1. BAGHOUSE, EIGHT COMPARTMENTS, 64,000 SQ. FT. FILTER AREA, WITH EIGHT 2 H.P. SHAKERS AND AN EMERGENCY AIR BLEED-IN DAMPER.

EXHAUST SYSTEM WITH A 450 H.P. BLOWER YENTING REYERBERATORY FURNACE FEED BELT CONVEYOR, THO RAM FEEDERS, THO RABBLE DOORS, SLAG TAP, LEAD WELL, THREE LAUNDERS, HEAT EXCHANGER CLEANOUT DOOR, THREE RECEIVING FURNACES, FOUR REFINING FURNACES, AND SEVEN DROSS HOPPERS. 12511-11.

This mitial permit must be renewed by

unless the equipment is moved, or changes ownership. It billing for annual renewal fee

thuis 301.0 not received by expiration data, contact office above.

This parmit does not authorize the emission of air contaminants in encass of those a Bound by Bivision 26 of the health and Safety Gods of the State of Galifornia or the Swips of the Sir Quality Henagement Bistrict. This permit connects considered as permission to violate existing lass, ordinances, regulations or statutes of other government agencies.

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MT 08/29/84

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SOUTH COAST AIR BUALITY MANAGEMENT BISIRICS

Sporation under this permit must be conducted in compliance with all information included with the initial optimation and the initial mit gendlitions. The equipment must be properly amintained and host in good operating condition at all times. In assortance with Bule this Permit to Sporate or copy must be posted on or within 6 actors of equipment.

LEEN OMER

CHE BATTERIES INC.

2700 SOUTH INDIANA STREET.

EQUIPMENT LOCATED AT:

LOS ANGELES, CALIFORNIA

APPL: NO. 123782

PREVIOUS PERMIT NO. M38606

PAGE 1 OF 2 PAGES

EQUIPMENT BESCRIFTION AND COMBITIONS!

DUST AND HUD HANDLING SYSTEM CONSISTING OF:

- 1. A.P.C. SUBSYSTEM NO. 1. (REYERB) DUST CONVEYING, INCLUDING: A. THREE U-TUBE HOPPER SCREN CONVEYORS WITH ROTARY VALVES, EACH 5 H.P.
 - CYCLONE SEPARATOR ROTARY VALVE, 2 H.P., WITH A DUST TRANSFER SCREW CONVEYOR, 3 H.P.

- TEN REYERB BAGHOUSE HOPPER SCREW CONVEYORS, EACH 5 M.P. TWO BAGHOUSE HOPPER COLLECTION SCREW CONVEYORS, EACH 7.5 M.P., AND TWO ROTARY VALVES, EACH 1 N.P.
- 2. A.P.C. SUBSYSTEM NO. 2 (BLAST) DUST CONVEYING, INCLUDING:

This mitial permit must be renewed by 11/01/84 (Rule 301.f) not received by expiration date, contact office above.

unless the equipment is moved, or changes ownership. If billing for annual renowal fee

This permit does not authorize the emission of hir contaminants in occass of these a Boood by Bivision 26 of the Bealth and Befoly Cade of the State of California or the Swies of the Air Suality Management Statrict. This sermit commet be considered as permission to violate aniating laws, ordinances, regulations or statutes of other government agencies.

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MT08/29/84

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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CONTINUATION OF PERMIT NO. (MUST BE DISPLATED WITH PERMIT) APPL NO. 123782

- A. THO U-TUBE HOPPER SCREW CONVEYORS WITH ROTARY VALVES, EACH 5 H.P.
- CYCLONE SEPARATOR ROTARY VALVE, 2 H.P., WITH A DUST TRANSFER SCREW CONVEYOR, 3 H.P.

C. FIVE BLAST BAGHOUSE HOPPER SCREW CONVEYORS, EACH 5 H.P.

D. BAGHOUSE HOPPER COLLECTION SCREW CONVEYOR, 7.5 H.P., WITH A ROTARY VALVE, 1 H.P.

A.P.C. SUBSYSTEM NO. 5 (HARD LEAD) DUST COLLECTING, INCLUDING TWO MARD LEAD BAGHOUSE
HOPPER COLLECTION SCREW CONVEYORS, EACH 5 H.P., AND A ROTARY VALVE.

A.P.C. SUBSYSTEM NO. 6 (SOFT LEAD) DUST COLLECTING, INCLUDING:

A. THO SOFT LEAD BAGHOUSE HOPPER COLLECTION SCREW CONVEYORS, EACH 5 H.P., AND A ROTARY

YALYE.

- B. DUST TRANSFER SCREW CONYEYOR, 10 M.P.

 5. A.P.C. SUBSYSTEM NO. 7 (MATERIAL STORAGE) DUST COLLECTING, INCLUDING TWO MATERIAL

 STORAGE BAGHOUSE HOPPER COLLECTION SCREW CONYEYORS, EACH 5 M.P., AND A ROTARY YALVE.

 6. THO DUST SLURRY SUMPS, NORTH AND SOUTH, EACH WITH A 5 M.P. AGITATOR, 20 M.P. SLURRY

 PUMP, MATER ADDITION AND WASHDOWN SYSTEM, AND SURFACTANT ADDITION PUMP, 1/3 M.P.

7. FOUR DUST TRANSFER SCREW CONYEYORS, EACH 10 M.P.
8. THO VACUUM PICKUP SUBSYSTEMS, NORTH AND SOUTH PLANTS, EACH WITH A 25 M.P. VACUUM
BLOWER, A 2'-0" DIA. CYCLONE SEPARATOR, WITH A 3/4 M.P. ROTARY VALYE, 92 SQ. FT. FILTER DUST COLLECTOR WITH A 3/4 H.P. ROTARY VALVE AND DIE COMPON DUST TRANSFER SCREW CONVEYOR, 3 M.P.

ONE REVERB FURNACE FEEDER PIT SUMP PUMP, 15 H.P.

13:35

TWO KETTLE GALLERY SUMP PUMPS EACH 5 H.P.



SOUR COAST AIR QUALITY MANAGEMENT DISTRICT

9150 FLAIR DRIVE EL MONTE, CALIFORNIA 91731

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Operation secon this permit must be conducted in compliance with all information included with the initial spelianties and the initial permit good special conditions. The equipment must be properly mulataleed and kept in good operating condition at all times. In assertance with bulk 204, this formit to Georgia or every must be sected on or within 6 nature of agripment.

LEGAL SMER OR OPERATORS

GNB BATTERIES INC. 2700 SOUTH INDIAMA STREET

EQUIPMENT LOCATED AT:

LOS ANGELES, CALIFORNIA

APPL. NO. 123801 PREVIOUS PERMIT NO. MZ1022

EQUIPMENT DESCRIPTION AND COMBITIONS:

FURNACE, LEAD SAMPLE SWEATING, REVERBERATORY TYPE, 500 LBS. CAPACITY, 250,000 BTU PER HOUR GAS

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS YENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

This initial permit must be renewed by

11/01/84

unicas the equipment is moved, or changes ownership. It beling for annual renewal lee

(Rule 301.f) not received by expiration date, contact office above.

This permit does not authorize the emission of air conteninants in excess of these a lieved by Pivision 26 of the Bealth and Safety Ends of the State of California or the Beies of the Air Quality Hanagement District. This permit connect be exembled on permission to violate emisting lane, ordinances, regulations or statutes of other government agencies.

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MR 08/29/84

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this parent must be conducted in compliance with all information included with the initial application and the initial per-The equipment must be properly existated and host in good operating condition at all times. In exceedance with five 294, all conditions. The equipment must be properly animalized and hopt in good operathis family to George or copy must be seeted on or within 6 autors of equipment.

LICAL DWIER OR OPERATOR:

GNB BATTERIES INC.

2700 SOUTH INDIANA STREET

EQUIPMENT LOCATED AT:

LOS ANGELES, CALIFORNIA

APPL. NO. 123805

PREVIOUS PERMIT NO. M38609

EQUIPMENT SESCRIPTION AND CONSTITUES:

AIR POLLUTION CONTROL SYSTEM NO. 7 (MATERIAL STURAGE), CONSISTING OF:

BAGHOUSE, EIGHT COMPARTMENTS, 64,000 SQ. FT. FILTER AREA, WITH EIGHT DUST COLLECTION MOPPERS, AND EIGHT 2 H.P. SHAKERS.
EXHAUST SYSTEM WITH A 300 H.P. BLOWER VENTING TWO REVERB FEED HOPPERS, THREE WEIGHBELT MOODS, THREE FILTERCAKE CONVEYOR TRANSFER POINTS, A BLAST FURNACE SKIPHOIST CHARGING HOOD, AND SEVEN OVERHEAD HOODS.

PAGE 1 OF 2 PAGES

unless the equipment is moved, or changes ownership. It billing for annual renoval fee

This initial permit must be renewed by 11/U1/64 Rule 301.0 not received by expiration date, contact office above.

This permit does not authorize the emission of air contominants in engage of these a Boood by Division 26 of the Boolth and Safety Godo of the State of California or the Soins of the Air Quality Management District. This permit samest be considered as permission to violate existing

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MIT 08/29/84

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

M 40012

CONTINUATION OF PERMIT NO DAUST BE DISPLAYED WITH PERMIT) AFTL NO. 123805

-CONDITIONS-

- 1. A MECHANICAL GAUGE MUST BE MAINTAINED IN EACH BAGHOUSE COMPARTMENT SO AS TO INDICATE, IN INCHES WATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE BAGS.
- 2. DUSTS COLLECTED IN THE BAGHOUSE MUST BE DISCHARGED ONLY INTO THE ENCLOSED DUST AND MUD HANDLING SYSTEM.



9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731.

M 56001

under this parmit must be conducted in compliance with all information included with the initial application and the initial perconditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with fluie 206, formit to Georgea or copy must be pested on or within 8 meters of equipment. conditions.

LEGAL OWNER OR OPERATOR:

GNB BATTERIES, INC.

METAL DIVISION

EQUIPHENT LOCATED AT: 2700 S. INDIANA STREET

LOS ANGELES, CALIFORNIA EQUIPHENT DESCRIPTION AND CONDITIONS:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. BAGHOUSE, SPENCER, 4'-0" DIA. X 11'-0" H., 306 SQ. FT. FILTER AREA, WITH A 1/2 H.P. SHAKER. 2. EXHAUST SYSTEM WITH A 5 H.P. BLOWER VENTING TWO LEAD SAMPLE SMELTING FURNACES.

-CONDITION-

DUSTS COLLECTED IN THE BAGHOUSE MUST BE DISCHARGED ONLY INTO CLOSED CONTAINERS.

11/01 ANNUALLY unless the equipment is moved, or changes ownership. If billing for annual renewal fee This initial permit must be renewed by (Rule 301.1) not received by expiration date, contact office above. This permit does not authorize the emission of air contaminants in excess of these allowed by Bivision 26 of the Health and Sefety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing LIEDIME OFICE lans, ordinances, regulations or statutes of other government agencies.

RAQUEL M. PUERTA

04/09/87

APPL. NO. 127145



9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

M :56003

Sporation under this permit must be conducted in compliance with all information included with the initial application and the initial pu t conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Aula 20 's Permit to George or copy must be posted on or within 8 meters of equipment. t conditions.

LEGAL OWNER OR OPERATOR: GNB BATTERIES, INC.

METAL DIVISION

EQUIPMENT LOCATED AT: 2700 S. INDIANA STREET LOS ANGELES, CALIFORNIA

EQUIPMENT BESCRIPTION AND CONDITIONS:

LEAD SMELTING SYSTEM NO. 2 CONSISTING OF:

- 1. FURNACE, LEAD SHELTING, CUPOLA TYPE, 6'-8" W. X 8'-7" L. X 23'-3" H., 200 TONS PER DAY CAPACITY, 4,000,000 BTU PER HOUR GAS-FIRED, WITH A LEAD WELL AND A SLAG TAP.
- 2. JACKET COOLING SYSTEM WITH FIVE WATER JACKETS AND A THERMOSIPHON TANK.
- 3. COMBUSTION AIR SUPPLY SYSTEM WITH A 75 H.P. AIR BLOWER & AN OXYGEN ENRICHMENT SYSTEM.
 4. CHARGING SYSTEM WITH SKIPHOIST, WEIGHT PLATFORM, 15 H.P. ELECTRIC WINCH, AND AN EMERGENCY CHARGING SYSTEM CONSISTING OF A MONORAIL, HOIST, 7-1/2 H.P., AND A BUCKET.

PAGE 1 OF 2

This initial permit must be renewed by (Rule 301.f) not received by expiration date, contact office above.

11/01 ANNUALLY unless the equipment is moved, or changes ownership. It villing for annual renewal le

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Lir Quality Management District. This permit cannot be considered as permission to violate existing

EXECUTIVE OFFICER

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APPL. NO. 127247

laws, ordinances, regulations or statutes of other poverment agencies.

RAQUEL M. PUERTA

04/09/87 DATE

INST AIR QUALITY MANAGEMENT DISTPICT SOUTH (

CONTINUATION OF PERMIT NO. M. 56003 (MUST BE DISPLAYED WITH PERMIT)

APPL NO. 127247

-CONDITIONS-

- THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.
- THE TOTAL WEIGHT OF ALL MATERIALS CHARGED INTO THIS FURNACE MUST NOT EXCEED 200 TONS DURING ANY ONE DAY.
- RECORDS OF ALL MATERIALS CHARGED INTO THIS FURNACE MUST BE KEPT ON FILE AND MADE AVAILABLE FOR INSPECTION UPON REQUEST BY DISTRICT PERSONNEL.



PORIN CATZ! VIE GRUFILL MYNYPENEM BIPINIC!

MIT to OPERA-lE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

REISSUED

RM56006

Operation under this permit must be consected in compliance with all informat ail conditions. The equipment must be properly maintained and host in youd o this formit to Operate or copy must be posted on or within 8 meters of equipm mpliance with all information included with the initial application and the initial per-minimum and book in good operating condition at all times. In accordance with Swin 206,

OR OF CRATORS

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GNB BATTERIES, INC.

METAL DIVISION

2700 S. INDIANA STREET

LOS ANGELES, CALIFORNIA

EQUIPMENT AT: SQUIPMENT DESCRIPTION AND COMBITIONS

. *

APPL. NO. 137012 PREVIOUS PERMIT NO. M56006

SODIUM CARBONATE PHEUMATIC CONVEYING SYSTEM CONSISTING OF:

TWO ROTARY AIRLOCKS, 1/2 H.P. EACH.

PHEUMATIC CONVEYOR WITH A SUTORBILT, POSITIVE DISPLACEMENT BLOWER, 30 M.P.

BAGHOUSE, FLEX-KLEEN, PULSE-JET CLEANING TYPE, MODEL NO. 84-8YBS-9, 2'-0" W. X 2'-0" L. X 9'-11" H., 95 SQ. FT. FILTER AREA WITH A 1 H.P. EXHAUST BLOWER, A 1-1/2 H.P. ROTARY YALVE, AND A 1-1/2 M.P. REYERSIBLE DICHARGING SCREW CONVEYOR.

PERMIT NO. RMS6006 SUPERSEDES PERMIT NO. MS6006 ISSUED 04/09/87

This initial permit must be renewed by

Mule 301. A not received by expiration date, contact office above.

This permit does not authorize the emission of air commissions in occass of those a flowed by Bivision 26 of the Boalth and Safety Code of the State of California or the Saise of the Air Quality homogeneous District. This permit connect be considered as permission to violate emisting load, ordinances, appelations or statutes of other government agencies.

RADUEL M. PUERTA

05/22/87



SOUTH COAST AIR MUALITY MARAGEMENT MISTATES

PERMIT to OPERA

M 56008

Sporation under this permit must be conducted in compliance with all informational senditions. The equipment must be properly existated and host in good couthin Fermit to Sourate or copy must be posted on or within 6 nature of equipment with all information included with the initial application and the initial per-and host in good operating condition at all times. In exterdance with help 204,

GNB BATTERIES, INC.

METAL DIVISION

EQUIPMENT

2700 S. INDIANA STREET LOS ANGELES, CALIFORNIA EQUIPMENT SESCRIPTION AND COMBITIONS:

FURNACE, LEAD MELTING, POT TYPE, 4,000 POUND CAPACITY, 180,000 BTU PER HOUR GAS-FIRED.

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

11701 ANNUALLY This initial permit must be renewed by fRule 301.ft not received by expiration date, contact office above. This permit does not authorize the emission of air contonioents in ercess of those a bowd by Bivision 26 of the health and Befaty Code of the State of California or the Avies of the Air Quality Menagement District. This permit connect be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies. RAQUEL M. PUERTA

04/09/87

. APPL. NO. 151106



SOUTH COAST AIR BUALITY MANAGEMENT BISINICS

PERMIT to OPERA-TE

M 56009

Operation under this permit must be conducted in compliance with all information included with the initial application and the initial position at all times. In accordance with full 20 this Permit to Operate or copy must be proporly amintained and best in good operating condition at all times. In accordance with full 20 this Permit to Operate or copy must be posted an or within 8 meters of equipment.

LEGAL OWICE OR OPERATOR: EQUIPMENT LOCATES ATS

GMB BATTERIES, INC.

METAL DIVISION

EQUIPMENT 2700 S. INDIANA STREET LOCATED AT! LOS ANGELES, CALIFORNIA EQUIPMENT DESCRIPTION AND COMPITIONS!

APPL. NO. 153016

AIR POLLUTION CONTROL SYSTEM NO. 9, CONSISTING OF:

- 1. SCRUBBER-MIST ELIMINATOR, MECHANICAL-CENTRIFUGAL TYPE, TRI-MER CORPORATION, MODEL F-S-10.
- Z. EXHAUST SYSTEM WITH A 20 H.P. BLOWER VENTING ONE BATTERY RECEIVING HOPPER, ONE BATTERY CRUSHER, ONE CRUSHER BELT CONVEYOR FEEDER, ONE VIBRATING DISCHARGING FEEDER AND DHE HYDRASIEVE SCREEN.

11/01 ANNUALLY soless the equipment is moved, or changes ownerstop. This initial permit must be renewed by Rule 301.1) not received by expiration date, contact office above. This permit does not authorize the emission of air contaminants in access of those a Round by Division 26 of the Realth and Enfoy Code of the State of California or the Roles of the Air Quality Management District, This permit connect be considered as permission to violate existing lars, ordinance, regulations or statutes of other government agencies.

> 17 RAQUEL H. PUERTA

04/09/87





PERMIT TO OPERATE

9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

Permit No. D22935 A/N 178384 Page 1

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 44551

Or Operator:

GNB INCORPORATED
2700 SOUTH INDIANA ST

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K.G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE A, HARD LEAD RECEIVING AND REFINING, CONTINENTAL BOILER WORKS, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS-OR LPG-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

Conditions:

- OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACES NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET IN ANY ONE DAY.



PERMIT TO OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D22935 A/N 178384 Page 2

CONTINUATION OF PERMIT TO OPERATE

- 8. A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - A. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.
 - B. THE TYPE OF GASEOUS FUEL USED.

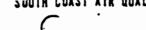
NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/ps April 11, 1990



PERMIT TO OPERATE
9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D22932 A/N 178385 Page 1

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 44551

Or Operator:

GNB INCORPORATED

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K.G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE B, HARD LEAD RECEIVING AND REFINING, CONTINENTAL BOILER WORKS, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS-OR LPG-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

Conditions:

- 1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACES NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET IN ANY ONE DAY.



9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D22932 A/N 178385 Page 2

CONTINUATION OF PERMIT TO OPERATE

- 8. A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - A. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.
 - B. THE TYPE OF GASEOUS FUEL USED.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/ps April 11, 1990



9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D22933 A/N 178386

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 44551

Or Operator:

GNB INCORPORATED

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K.G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE E, SOFT LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS-OR LPG-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

Conditions:

- OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACES NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET IN ANY ONE DAY.



9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

D22933 A/N 178386 Page 2

CONTINUATION OF PERMIT TO OPERATE

- 8. A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - A. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.
 - B. THE TYPE OF GASEOUS FUEL USED.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/ps

April 11, 1990



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PERMIT TO OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D23197 A/N 178387 Page 1

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 044551

Or Operator:

GNB INCORPORATED

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K.G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE F, SOFT LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-HLP. PORTABLE AGITATOR AND A 7-1/2-HLP. PORTABLE TRANSFER PUMP.

Conditions:

- 1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET IN ANY ONE DAY.



9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D23197 A/N 178387 Page 2

CONTINUATION OF PERMIT TO OPERATE

- 8. A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - A. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.
 - B. THE TYPE OF GASEOUS FUEL USED.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/mb

April 18, 1990



PERMIT TO OPERATE 9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D23195 A/N 178388 Page 1

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 044551

Or Operator:

GNB INCORPORATED

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K. G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE G, SOFT LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP.

Conditions:

- OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2 THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR 3. POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR 4. GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING 5. PERIODS OF NATURAL GAS CURTAILMENT.
- A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE 6. MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 CUBIC FEET IN ANY ONE DAY.



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

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Permit No. D23195 A/N 178388 Page 2

CONTINUATION OF PERMIT TO OPERATE

- 8. A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - A. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.

B. THE TYPE OF GASEOUS FUEL USED.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/mb

April 18, 1990



9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D23196 A/N 178391 Page 1

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 044551

Or Operator:

GNB INCORPORATED
2700 SOUTH INDIANA STREET
LOS ANGELES, CALIFORNIA 90023

ATTN: K. G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE 3, HARD LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP.

Conditions:

- OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET IN ANY ONE DAY.



9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

Permit No. D23196 A/N 178391 Page 2

CONTINUATION OF PERMIT TO OPERATE

and the complete the state of t

- A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.
 - THE TYPE OF GASEOUS FUEL USED. B.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/mb

April 18, 1990



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Petmit No. D22934 A/N 178392 Page 1

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 44551

Or Operator.

GNB INCORPORATED

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K.G.CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE 4, HARD LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS-OR LPG-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

Conditions:

- OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, OIL, OR GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE DURING PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED IN THE MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACES NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET IN ANY ONE DAY.



9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D22934 A/N 178392 Page 2

CONTINUATION OF PERMIT TO OPERATE

- 8. A DAILY LOG CONCERNING FURNACE NOS. A, B, E, F, G, AND 1 TO 9, INCLUSIVE, MUST BE KEPT. THIS LOG MUST BE MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. THIS LOG MUST CONTAIN THE FOLLOWING INFORMATION:
 - A. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN ALL OF THE FURNACES MENTIONED ABOVE, IN CUBIC FEET.
 - B. THE TYPE OF GASEOUS FUEL USED.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/ps

April 11, 1990





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PERMIT TO OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

This initial permit must be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes own:
If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner

ID 44551

Or Operator:

GNB INCORPORATED

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA 90023

ATTN: K.G. CLARK

Equipment

located at: SAME AS ABOVE

Equipment Description:

FURNACE 5, SPECIALTY LEAD CASTING AND REFINING, CONTINENTAL BOILER WORK TYPE, 40-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS-OR LPG-FIRED WITH H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

Conditions:

- 1. OPERATION OF THIS EQUIPMENT MUST BE CONDUCTED IN COMPLIANCE WI DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2. THIS EQUIPMENT MUST BE PROPERLY MAINTAINED AND KEPT IN OPERATING CONDITION AT ALL TIMES.
- 3. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.
- 4. ELEMENTAL SULFUR, COAL, SAWDUST, RUBBER, PLASTICS, PAPER, RAGS, (GREASE MUST NOT BE CHARGED TO THIS FURNACE.
- 5. LIQUIFIED PETROLEUM GAS MAY ONLY BE USED IN THIS FURNACE I PERIODS OF NATURAL GAS CURTAILMENT.
- 6. A FLOWMETER, INDICATING TOTAL CUBIC FEET, MUST BE MAINTAINED MAIN GASEOUS FUEL SUPPLY LINE TO FURNACE NOS. A, B, E, F, G, AND INCLUSIVE.
- 7. THE TOTAL AMOUNT OF GASEOUS FUEL CONSUMED IN FURNACES NOS. A, B, AND 1 TO 9, INCLUSIVE, MAY NOT EXCEED 400,000 STANDARD CUBIC FEET ONE DAY.



9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

M 61227

Operation under this permit must be conducted in compliance with all information included with the initial application and the initial permit genditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with full 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL CAMER OR OPERATOR:

GNB BATTERIES, INC.

2700 SOUTH INDIANA STREET

APPL. NO. 159460 PREVIOUS PERMIT NO. M56002

EQUIPMENT LOCATED AT:

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And Comparison of the Comparis

LOS ANGELES, CALIFORNIA

PAGE 1 OF 3 PAGES

EDUIPMENT BESCRIPTION AND CONDITIONS:

AIR POLLUTION CONTROL SYSTEM NO. 1, CONSISTING OF:

1. QUENCH CHAMBER, WATER SPRAY TYPE, 10'-0" DIA. X 61'-0" H. WITH 12 SPRAY MOZZLES.

2. U-TYPE COOLER, SEVEN SECTION, WITH THREE DUST COLLECTION HOPPERS, ONE DAMPERED BY-PASS, TWO HOPPER DAMPERS, AND FOUR TUBE BY-PASSES.

3. TWO BAGHOUSES, EACH WITH FIVE COMPARTMENTS, 22,620 SQ. FT. OF FILTER AREA, AND FIVE 2-H.P.

SHAKERS.

EMERGENCY BLEED-IN DAMPER.

SYSTEM ISOLATION DAMPER.

This initial permit must be renewed by 11/16 ANNUALLY unless the equipment is moved, or changes ownership. If billing for annual renewal lee fittle 301.0 not received by expiration date, contact office above.

This permit does not authorize the emission of air contaminants in crosss of those a Newed by Bivision 26 of the Moulth and Safety Gode of the State of California or the Suice of the Air Quality Management District. This permit sames be considered as permission to violate emisting laws, ordinances, regulations or statutes of other government agencies.

DECEMBER OFFICE Lece 1. RAQUEL M. PUERTA

PERMIT PROCESSING UNIT DATE 03/20/88

SUTTE COMOT MIN GOVERN MANAGEMENT DISTRICT

M 61227

CONTINUATION OF PERMIT NO. (MUST SE DISPLAYED WITH PERMIT) APPL NO. 159460

- 6. SCRUBBER, VENTURI-TYPE 4'-0" DIA. X 13'-9" H., WITH A 2'-2" DIA. VARIABLE THROAT, COMMON WITH AIR POLLUTIION CONTROL SYSTEM NO. 2.
- SCRUBBER, NEPTUNE AIR-POL, TRAY TOWER-TYPE, 8'-6" DIA. X 30'-0" H., WITH FOUR TRAY CONTACTOR STAGES, TWO 60-H.P. SCRUBBER RECIRCULATION PUMPS, DNE DISCHARGE COLLECTION SUMP WITH TWO 7.5 H.P. SUMP PUMPS, ONE 30,000 GALLON SCRUBBER DISCHARGE SURGE TANK, AND ONE 125-H.P. SCRUBBER DISCHARGE SURGE TANK AERATION SYSTEM, COMMON WITH AIR POLLUTION CONTROL EVERTER DO 2 CONTROL SYSTEM NO. 2.
- 8. EXHAUST SYSTEM WITH A 450-H.P. BLOWER VENTING A REVERBERATORY FURNACE.

-CONDITIONS-

- 1. A MECHANICAL GAGE MUST BE MAINTAINED IN EACH BAGHOUSE COMPARTMENT SO AS TO INDICATE, IN INCHES OF WATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE BAGS.
- 2. DUST COLLECTED IN THE BAGHOUSES MUST BE DISCHARGED ONLY INTO A CLOSED SYSTEM.
- 3. FLOW METERS MUST BE MAINTAINED IN THE RECIRCULATION SOLUTION SUPPLY LINES TO THE VENTURI AND TRAY TOWER.
- THE PH OF THE COMBINED SOLUTIONS IN THE SCRUBBER DISCHARGE COLLECTION SUMP NUST NOT BE LESS THAN 7.0.
- 5. NOT LESS THAN 280 GPM OF RECIRCULATED SOLUTION MUST BE SUPPLIED TO THE SCRUBBER VENTURI AS WELL AS 280 GPM OF RECIRCULATED SOLUTION TO THE TRAY TOWER WHEN THIS AIR POLLUTION CONTROL SYSTEM IS IN OPERATION.

2 PAGE

- 6. DIFFERENTIAL PRESSURE TRANSMITTERS MUST BE MAINTAINED IN THE VENTURI AND IN THE TRAY TOWER SO AS TO INDICATE, IN INCHES OF WATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER AND THE TRAY TOWER.
- 7. THE STATIC PRESSURE DIFFERENTIAL ACROSS THE VENTURI AND TRAY TOWER MUST BE MAINTAINED AT NOT LESS THAN 26 INCHES OF WATER COLUMN WHEN THIS EQUIPMENT SERVES THE REVERBERATORY FURNACE ONLY.
- THE STATIC PRESSURE DIFFERENTIAL ACROSS THE VENTURI AND TRAY TOWER MUST BE MAINTAINED AT NOT LESS THAN 36 INCHES OF WATER COLUMN WHEN THIS EQUIPMENT SERVES THE CUPOLA AND THE REVERBERATORY FURNACES SIMULATANEOUSLY.



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EGNIFICATE ATE

CHR BATTERIES, INC.

METAL DIVISION

2700 S. INDIANA STREET

APPL. NO. 127248 PREVIOUS PERMIT NO. M56004

ED ATE LOS ANGELES, CALIFORNIA

PAGE 1 OF 3

- AIR POLLUTION CONTROL SYSTEM NO. 2, CONSISTING OF:

 1. AFTERBURNER, 8'-0" DIA. X 31'-9" N., 10,000,000 BTU PER NOUR NATURAL GAS-FIRED, MITH AFTER
 BURNER COMBUSTION AIR SYSTEM POMERED BY A 20 N.F. BLOWER.
- 2. HEAT EXCHANGER, WATER JACKET-TYPE, B'-0" DIA, I 30'-0" M.
- B-TUBE COOLER, FIVE SECTION, WITH TWO BUST COLLECTION MOPPERS, A TUBE BY-PASS, A TUBE BAMPER VALVE, AND A HOPPER BY-PASS WITH A DAMPER.

 PERMIT NO. PHEADOM STIPERSEDES PERMIT NO. HEADOM ISSUED NA/109/87

11/01 ANNUALLY unions the equipment is moved, or the

Mule 301.8 and received by expiration date, contact office above.

This permit once not collective the emission of our gonzaments in occups of these a flevel by Biolisian M of the booth and Safety Easts of the Mane of California or the fairs of the dis-builty Recogness to testicia. This operat cannot be considered on permissions to recipit our state.

RAQUEL IL PUERTA

05/22/87

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RMS6004

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CYCLONE SEPARATOR, 4'-9" DIA.
BAGHOUSE, FIVE COMPARTMENT, 22,520 SO. FT. FILTER AREA, WITH FIVE DUST MOPPERS, FIVE
Z N.P. SHAKERS, AND AN EMERGENCY BLEED-IN DAMPER.
SYSTEM ISOLATION DAMPER.

STATEM ISOLATION DAMPER.

SCRUBBER, VENTURI-TIPE, 4'-0" DIA. X 13'-9" N., WITN A 2'-2" DIA. VARIABLE THROAY,

COMPON WITH AIR POLLUTION CONTROL SYSTEM NO. 1.

SCRUBBER, MEPTURE AIR-POL, TRAY TOWER-TYPE, 8'-6" DIA. X 30'-9" N. WITH FOUR TRAY

CONTACTOR STAGES, TWO 60 N.P. SCRUBBER RECIRCULATION PURPS, OWE DISCHARGE COLLECTION

SUMP WITH TWO 7 1/2 N.P. SUMP PURPS, OME 30,000 GALLON SCRUBBER DISCHARGE SUMGE TANK,

AND OME 125 N.P. SCRUBBER DISCHARGE SUMGE TANK ASSATION SCRUBBER DISCHARGE SUMGE TANK. AND ONE 125 M.P. SCRUBBER DISCHARGE SURGE TANK ARRATION SYSTEM, COMMON MITH AIR POLLUTION CONTROL SYSTEM NO. 1.

EXHAUST SYSTEM WITH A 250 M.P. BLOWER YENTING A BLAST FURNACE.

-COMDITIONS-

A TEMPERATURE OF NOT LESS THAN 1200° F MIST BE MAINTAINED IN THE AFTERMINER, WHEN THE EQUIPMENT IT SERVES IS IN OPERATION.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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- A MECHANICAL GAUGE MUST BE INSTALLED IN EACH RAGHDUSE COMPARTMENT SO AS TO INDICATE, IN INCHES OF MATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE BAGS.
 BUST COLLECTED IN THE BAGHOUSE MUST BE BISCHARGED ONLY INTO A CLOSED SYSTEM.
- FLOW METERS MUST BE MAINTAINED IN THE RECIRCULATION SOLUTION SUPPLY LINES TO THE VENTURI AND TRAY TOWER.
- THE PH OF THE COMBINED SOLUTIONS IN THE SCRURBER DISCHARGE COLLECTION SOME MUST NOT BE LESS THAN 7.0.
- BE LESS THAN 7.0.

 NOT LESS THAN 280 GPM OF RECIRCULATED SOLUTION MUST BE SUPPLIED TO THE SCRUMRER YEATHE AS WELL AS 280 GPM OF RECIRCULATED SOLUTION TO THE TRAY TOWER WERE THIS AIR POLLUTION CONTROL SYSTEM IS IN OPERATION.

 DIFFERENTIAL PRESSURE TRANSMITTERS MUST BE MAINTAINED IN THE VENTURI AND IN THE TRAY TOWER SO AS TO INDICATE, IN INCNES OF MATER COLUMN, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER AND THE TRAY TOWER.

 THE STATIC PRESSURE DIFFERENTIAL ACROSS THE VENTURI AND TRAY TOWER MUST BE MAINTAINED AT NOT LESS THAN 20 INCNES OF MATER COLUMN MEEN THIS EQUIPMENT SERVES THE CURNA EDWARDS DAY.
- THE CUPOLA FURNACE DHLT
- THE STATIC PRESSURE DIFFERENTIAL ACROSS THE VENTURE AND TRAY TOWER MIST BE MAINTAINED AT NOT LESS THAN 36 INCHES OF MATER COLUMN WHEN THIS EQUIPMENT SERVES THE CUPDLA AND THE REVERBERATORY PURMACES SIMULTAMEDUSLY.

SOUTH COAST AIR QUALITY MANAGEMENT BISTAILS

9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

M 56005

Sporation under this permit must be conducted in compliance with all information included with the initial application and the initial permit genditions. The equipment must be properly emistained and kept in peed operating condition at all times. In associates with Suis 204, this Permit to Socrate or easy must be posted on or within 8 nature of conignost.

LEGAL SMIES

GNB BATTERIES, INC.

METAL DIVISION

EGGIPHERT LOCATED ATE

2700 S. INDIANA STREET LOS ANGELES, CALIFORNIA

EMIPHERT SESCRIPTION AND CONSITIONS:

LEAD SCRAP HELTING SYSTEM NO. 1 CONSISTING OF:

- FURNACE LEAD SMELTING, REVERBERATORY TYPE, 19'-0" W. X 39'-5" L. X 12'-9" H., 404 TOKS PER DAY CAPACITY, 30,000,000 BTU PER HOUR GAS-FIRED, WITH A LEAD WELL, THREE LAUNDERS, AND A SLAG TAP.
- SLAG HANDLING SYSTEM, 7.5 H.P.
- TWO HYDRAULIC RAM FEEDERS, EACH 40 H.P. COMBUSTION AIR SYSTEM, 50 H.P.

PAGE 1 OF 2

This initial permit must be renewed by 11/01 ANNI Rule 301.0 not received by expiration date, contact office above.

11/01 ANNUALLY unless the equipment is moved, or changes ownership. If Johns Nor goodal senewal les

This parait does not authorize the emission of air contaminants in occase of those a Boood by Bivision 26 of the Bealth and Safety Code of the State of California or the Buiss of the Air Quality Management Bistrict. This permit cannot be densidered as permission to violate emisting laws, ordinances, regulations or elations of other government opension.

APPL. NO. 127249

04/09/87

SOUTH FOR ST AIR QUALITY MANAGEMENT DISTPICT

CONTERNATION OF PERMIT NO H 56005 CALLET BE DISPLAYED WITH PEALLY

APTLHE-127249

RAQUEL H. PUERTA

FEED BELT CONVEYOR, 5 H.P.

HATERIAL TRANSFER BELT CONVEYORS, 5 H.P.

THREE CHARGING WEIGHBELT CONVEYORS, EACH 1/2 H.P.

-CONDITIONS-

- THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS YENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.
- THE TOTAL WEIGHT OF ALL MATERIALS CHARGED INTO THIS FURNACE MUST NOT EXCEED 404 TONS DURING ANY DHE DAY.
- RECORDS OF ALL MATERIALS CHARGED INTO THIS FURNACE MUST BE KEPT ON FILE AND MADE AVAILABLE FOR INSPECTION UPON REQUEST BY DISTRICT PERSONNEL.



40006

9150 FLAIR DRIVE EL MONTE, CALIFORNIA 91731

Sporation under this persit must be conducted in compliance with all information lociused with the initial application and the initial po-mit conditions. The equipment must be properly maintained and heet in good operating condition at all times. In assertance with this 35 this Persit to Sporate or copy must be posted on or within 5 nature of equipment.

GMB BATTERIES INC. 2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA

APPL. NO. 123797 PREVIOUS PERMIT NO. M36677

EQUIPMENT

LOCATED ATE

EQUIPMENT DESCRIPTION AND CONDITIONS:

ACID NEUTRALIZATION AND WATER TREATMENT SYSTEM CONSISTING OF:

TWO 3 H.P. PUMPS, SCRUBBER DISCHARGE SUREE TANK.

TWO 3 H.P. PUMPS, SCRUBBER DISCHARGE SUREE TARK.

TWO 10 H.P. PUMPS, FILTRATE SURGE TARK.

TWO 15 H.P. PUMPS, STANDBY NEUTRALIZATION SOLUTION.

THREE PH ADJUSTMENT TARKS, EACH 4,000 GALLON CAPACITY WITH A 3/4 H.P. AGITATOR.

TWO 20 H.P. PUMPS, FILTER FEED.

FOUR CARTRIDGE-TYPE FILTERS, 30' DIA. X 4'-0" H.

ACID FEED TARK, 3,800 GAL. CAPACITY, WITH TWO 1/4 H.P. ACID METERING PUMPS.

FINAL PH ADJUSTMENT TARK, 4,000 GAL CAPACITY TOTAL, TWO COMPARTMENTS.

This initial permit must be renewed by

unless the equipment is moved, or changes ownership, it billing for annual tenewal fee

Rule 301. Il not received by expiration date, contact office above.

This percit does not outborize the emission of air sectaminants is excess of these aboved by Division 25 of the Besith and Before Code of the State of California or the Suise of the Air Quality Honogenest Bistrict. This permit cannot be considered as permission to violate existing lans, ordinances, regulations or statutes of other government agencies.

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MT 08/29/84

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SOUTH COAST AIR MNALITY MANAGEMENT BISTATES

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

M 40007

Sporation under this permit must be conducted in compliance with all information included with the initial application and the initial permit particles. The equipment must be preserly existated and kept in good operating condition at all times. In accordance with full 204, this Permit to Sporate or copy must be sected as or within 6 nature of equipment.

LEEM OMER

GNB BATTERIES INC. 2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA

APPL. NO. 123799 PREVIOUS PERMIT NO. M36649

EQUIPMENT LOCATED AT:

EQUIPMENT DESCRIPTION AND CHROITIONS

FURNACE NO. 9, SOFT LEAD REFINING, POT TYPE, 75 TON CAPACITY, 2,500,000 BTU PER HOUR MATURAL GAS-OR PROPANE-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

PROCESS WEIGHT: ALLOWED LOSSES:

4,375 LBS/HR 5.7 LBS/HR

ESTIMATED LOSSES:

0.07 LBS/HR

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

This initial permit must be renewed by

11/01/84

naless the equipment is moved, or changes ownership. If billing for annual renewal fee

Rule 301.0 not received by expiration date, contact office above.

This permit does not authorize the emission of air contaminants in excess of these a Bound by Bivision 26 of the Bealth and Bafety Code of the Biate of California or the Being of the Air Evelity Monagement Bistricts. This permit assume the emission of overlation to violate existing land, ordinances, regulations or statutes of other government agencies.

DEDITING STREET

M YIRGINIA MOY

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MI Q8/29/84



SUUIN COAST AIR QUALITY MANAGEMENT DISTALL!

9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

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Sporation under this permit must be conducted in compliance with all information included with the beitial application and the initial permit quadrional. The equipment must be preserly mulatained and kept in quadrional according an all times. In accordance with Suis 204, this formit to Sporate or every must be posted on or within E-maters of equipment.

LEEUL OWIER

CHB BATTERIES INC.

2700 SOUTH INDIANA STREET

APPL. NO. 123800 PREVIOUS PERMIT NO. M36648

EQUIPMENT LOCATED AT:

LOS ANGELES, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS

FURNACE NO. 8, SOFT LEAD REFINING, POT TYPE, 75 TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS-OR PROPANE-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

PROCESS WEIGHT: ALLOWED LOSSES:

4,375 LBS/HR

ESTIMATED LOSSES:

LBS/HR 0.07 LES/HR -CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

This initial permit must be renewed by 11/U1/04
(Rule 301.f) not received by expiration date, contact office above.

unicss the equipment is moved, or changes ownership. If billing for annual renewal fee

This pornit does not aetherize the emission of air contaminants is excess of these a Noved by Division 26 of the Health and Safety Code of the State of California or the Seice of the Air Quality Henagement District. This permit connet be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

EXECUTIVE OFFICER

BY VIRGINIA MOY

MT 08/29/84

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SOUTH COAST AIR COALITY MANAGEMENT BISIRICS

PERMIT to OPEn

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

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Sportion under this permit must be deedected in compliance with all information included with the initial application and the initial permit smalltines. The equipment must be precedy maintained and best in good operating condition at all times. In accordance with hele 306, mit conditions. The equipment must be properly milatained and best in good opera this formit to Sporate or gooy must be sented on or within & netury of apripment.

CHE BATTERIES INC.

2700 SOUTH INDIANA STREET

LOS ANGELES, CALIFORNIA

APPL. NO. 123804

PREVIOUS PERMIT NO. M36647

EQUIPMENT LOCATED ATE

EQUIPMENT DESCRIPTION AND COMBITIONS:

FURNACE NO. 7. SOFT LEAD REFINING, POT TYPE, 75 TON CAPACITY, 2.500,000 BTU PER HOUR MATURAL CAS-OR PROPANE-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

PROCESS WEIGHT: ALLOWED LOSSES:

LBS/HR 4,375 5.7 LBS/HR

ESTIMATED LOSSES:

0.007 LBS/HR -KOITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS YENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

uniest the equipment is moved, or changes ownership. If billing for annual renormal fee

This initial permit must be renewed by 11/U1/64
(Rule 301.0 not received by expiration date, contact office above.

This permit does not sutherize the emission of air contaminants in escass of those a Bound by Bivision 26 of the Boalth and Safety Gode of the State of California or the Buies of the Air Swellty Management Bistrict. This permit sometherementaries of commission to violate emisting laws, ordinances, pagalations or statutes of other government agencies.

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FT VIRGINIA MOY

MT 08/29/84

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SOUTH COAST AIR RUALITY MANAGEMENT BISIRICS

\$150 FLAIR DRIVE, EL MONTE, CALIFORNIA \$1731

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LEGAL OMER OR OPERATORS EQUIPMENT

LOCATED AT:

SMB BATTERIES INC.

2700 SOUTH INDIANA STREET

LOS ANGELES, CALIFORNIA

.APPL. NO. 123783

PREVIOUS PERMIT NO. M29467

EQUIPMENT DESCRIPTION MS COMBITIONS:

SCRUBBER SOLUTION MIXING AND STORAGE SYSTEM CONSISTING OF:

1. THO SODA ASH FEEDERS, MERRICK, WEIGH-BELT CONVEYOR TYPE, 1/2 H.P. EACH.

2. SOLUTION MIXING TANK, THO COMPARTMENTS, 30,000 GALLON CAPACITY, WITH AM AGITATOR, 2 K.P., AND SOLUTION HIXING TANK, THE COMPARISENTS, SOLUTION HIXING TANSFER PUMPS, 7-1/2 H.P. EACH.
SOLUTION SURGE TANK, 33,000 GALLON CAPACITY, WITH TWO TRANSFER PUMPS, 7-1/2 H.P. EACH.
SOLUTION STORAGE TANK, 33,000 GALLON CAPACITY.

This initial permit must be renewed by

unices the equipment is moved, or changes ownership. If billing for annual renewal les

Mule 301.0 not received by expiration date, contact office above.

This permit does not authorize the emission of air conteminants in empas of these a Naved by Sivision 26 of the Health and Safety Code of the State of California or the Suins of the Air Quality Management Sistrict. This permit commat be considered as permission to violate emisting laws, ordinances, regulations or statutes of other government agencies.

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MTE 08/29/84

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SOUTH COAST AIR BHALITT MANAGEMENT BISIRICT

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

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OR OPERATORS

GNB BATTERIES INC.

2700 SOUTH INDIANA STREET LOS ANGELES, CALIFORNIA

APPL. NO. 123791 PREVIOUS PERMIT NO. M36641

EQUIPMENT LOCATED ATE

ESPIPHENT OCACRIPTION AND COMMITTONS:

FURNACE NO. 1, HARD LEAD RECEIVING, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR MATURAL GAS- OR PROPARE-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PURP.

PROCESS WEIGHT: ALLOWED LOSSES: 1,834 LBS/HR LBS/HR

ESTIMATED LOSSES:

0.05 LBS/HR

-COMDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IS IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FILL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

This indial permit must be renewed by Rule 301.0 not received by expiration date, contact office above.

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uniess the equipment is moved, or changes ownership. If beling for annual renewal ice

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DIGHTM WILLIAM

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9150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

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ation under this permit must be conducted in compliance with-all information included with the initial application and the initial per-souditions. The occionant must be preparly minimized and hopt in good operating condition at all times. In excerdance with bein 206 Formit to Sparate or copy must be posted on or within 8 nature of equipment.

OR OFERETORS

GNB BATTERIES INC.

2700 SOUTH INDIANA STREET

APPL. NO. 123792

PREVIOUS PERMIT NO. M36642

EQUIPMENT LOCATED ATE

LOS ANGELES, CALIFORNIA

EQUIPMENT DESCRIPTION AND COMMITTORS

FURNACE NO. 2, HARD LEAD RECEIVING, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR PROPANE-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP

PROCESS WEIGHT: ALLOWED LOSSES:

LBS/HR LES/HR

ESTIMATED LOSSES:

0.05 LBS/HR

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IS IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

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8150 FLAIR DRIVE EL MONTE CALIFORNIA 91731

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LEGAL OWNER OR OPERATORS

GHB BATTERIES INC.

2700 SOUTH INDIANA STREET

EQUIPMENT LOCATED AT: LOS ANGELES, CALIFORNIA

APPL. NO. 123796

PREVIOUS PERMIT NO. M36646

EQUIPMENT BESCRIPTION AND CONDITIONS:

FURNACE NO. 6, SOFT LEAD RECEIVING, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR PROPANE-FIRED WITH A 30 H.P. PORTABLE AGITATOR AND A 7-1/2 H.P. PORTABLE TRANSFER PUMP.

PROCESS WEIGHT:

4,375

ALLOWED LOSSES: ESTIMATED LOSSES: 5.7 LBS/HR 0.07 LBS/HR

LBS/HR

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IS IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

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EXECUTAL STREET

BY YIRGINIA HOY

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9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

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Speration under this permit must be conducted in compliance with all information included with the initial coplication and the initial permit good from. The equipment must be properly maintained and best in good operating condition at all times. In commence with fiving 204, this farmit to Sperate or every must be posted on or within 8 meters of equipment.

LEGAL OWNER OR

GNB BATTERIES INC.

2700 SOUTH INDIANA STREET

APPL. NO. 123798 PREVIOUS PERMIT NO. M36651

EQUIPMENT LOCATED ATI LOS ANGELES, CALIFORNIA

SENIPHENT DESCRIPTION AND COMBITIONS:

SODIUM CARBONATE RECEIVING AND STORAGE SYSTEM CONSISTING OF:

1. PNEUMATIC CONVEYOR, WITH A"75 H.P. BLOWER.

2. THO STORAGE BINS, EACH SOO TONS CAPACITY WITH A 295 SQ. FT. FILTER VENT AND A 4" DIA.
PNEUMATIC CONVEYOR TUBE."

PROCESS WEIGHT: ALLOWED LOSSES: 50,000 LBS/HR

ESTIMATED LOSSES:

LBS/HR 14.6 2.5 LBS/HR

This initial permit must be renewed by

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9150 FLAIR DRIVE EL MONTE CALFORNIA 91731

PERMIT NO.

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APPL. # 123802

CU. ID. 044551

SECTUR

LEGAL OWNER GIB BATTERIES INC, METALS DIV ROUPMENT 2700 S INDIANA ST LOCATEDAT: LOS ANGELES, CA 900230000

EQUIPMENT DESCRIPTION AND CONDITIONS:

RAGI GASOLINE FUELING & DISPENSING FACILITY CONSISTING OF 1

1. 01 GASOLINE STORAGE TANKS

01 GAS DISPENSING HOZZLES

. 03 VAPOR RECOVERY STATEM - BALANCE

PERMIT CONDITION:

PHASE I AND PHASE II VAPOR RECOVERY SYSTEMS MUST BE IN FULL UPERATION, WHENEVER THIS FACILITY IS IN USE. SUCH SYSTEMS MUST BE INSTALLED, DOEDATED AND MAINTAINED TO HEFT ALL CAPH CERTIFICATION REQUIPEMENTS.

by This initial permit must be renewed by 1 1 / 1 = ANIUALLY 12 unless the equipment is moved, or changes ownership. If billing for sanual operating is the not received by expiration date, contact office above 1 milkfor the transport of the property of t

This permit does not authorize the emission of air contenients in eagues of those a Bored by Bivision 26 of the Health and Before Code of the State of Colifornia or the Buies of the Air Quality Management Bistrict. This permit comet be emaidered as permission to violate existing land, ordinances, regulations or statutes of other government agencies.

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WIRGINIA HOT, PRINCIPAL PERHIT PHUCESS CLERK

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· COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Rood / Whittier, California Mailing Address: / P. O. Box 4998, Whittier, Colifornia 90607 Telephone: (213) 699-7411 / Fram Los Angeles (213) 685-5217

CHARLES W. CARRY Chief Engineer and General Manager

June 3, 1986 File:02-00.05-00/86-11092G

Mr. Victor Vaits City of Vernon 4305 Santa Fe Ave. Vernon, CA 90058

Dear Mr. Vaits:

Industrial Wastewater Discharge Permit No. 11092 (Ref. IW 10836)

GNB Incorporated 2717 S. Indiana St. Vernon, CA 90023

Enclosed are two (2) approved sets of plans and copies of the approved Industrial Wastewater Discharge Permit for the subject company. Please review these for compliance with your requirements, and retain the copies you require for your files. A copy of this letter is forwarded to the applicant to notify him of the Sanitation Districts' permit requirements, which are in force from the current date. If any additional permit requirements are issued to the applicant by your agency, copies should be forwarded to the Sanitation Districts for our records. The approved plans consist of:

- 1. Dwg. No. DM-015: Plot Plan
- 2. Dwg. No. DF-101: North Yard Piping Plan
- 3. Dwg. No. DF-112: South Yard Piping Plan; Mobile Equipment Wash Pit Piping
- 4. Dwg. No. 39-724-100: South Yard Plan; Storm Water Retention Pond;
 - Location of Meter Bldg & Point of Discharge M.H. ~
- 5. Dwg. No. 39-724-102: Details, South Yard Storm Water Retention Pond
- 6. Dwg. No. 39-724-103: Retention Pond Details
- 7. Dwg. No. 39-724-104: Drainage Details
- 8. Dwg. No. 39-724-106: Discharge Pump, Retention Pond, Los Angeles Smelter
- 9. Dwg. No. 39-724-106A: Discharge Intake, Retention Pond, Los Angeles Smelter
- 10. Dwg. No. 390724-108: Discharge Lines, Retention Pond, Los Angeles Smelter; Location of Meter Bldg, Sewers & Discharge M.H. with
 - Grade Elevations
- 11. Dwg. No. 39-724-109: Metering Bldg., Retention Pond, Los Angeles Smelter
- 12. Dwg. No. 39-724-110: Metering Building, Retention Pond, Los Angeles Smelter
- 13. Dwg. No. 39-724-112: "Industrial Wastewater Flow Meter Vault, Los Angeles Smelter"; Details of New 90 Degree V-Notch Weir with Pressure Transducer & Auxilliary Bubble Tube
- 14. Dwg. No. 39-724-113: Mobil Equipt. Wash Pit, Los Angeles Smelter
- 15. Additional Permit Application Information, Attachment 1_- Retention Pond Calculations
- 16. Additional Permit Application Information, Attachment 2 Procedure for Sampling the Rainwater Retention Pond Prior to Discharge and/or Treatment.

Approval of the plans and permit is contingent upon continuing compliance with applicable Sanitation Districts' Ordinance requirements, upon any corrections shown in red on the drawings, and upon the items indicated on the attached requirement list.

If you have any questions concerning these requirements, please call Gilbert Chang of the Sanitation Districts' Industrial Waste Section at extension 257.

Very truly yours,

Charles W. Carry

Jeon S. Directo
Supervising Civil Engineer

LSD:GC:wh

cc: Mr. Kenneth G. Clark
GNB Incorporated
P.O. Box 23957

Los Angeles, CA 90023-0957

cc: California Regional Water
Quality Control Board
Los Angeles Region, Room 4027
107 S. Broadway
Los Angeles, CA 90012

Attn: Robert P. Ghirelli

SANITATION DISTRICTS OF LOS ANGELES COUNTY

Charles W. Carry, Chief Engineer and General Manager 1955 Workman Mill Road, P.O. Box 4998, Whittier, California 90607

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

REQUIREMENT LIST

Company Name	GNB Incorporated	
INDUSTRIAL WA	STEWATER DISCHARGE PERMIT NO. 11092	
DATE OF PERMI	T ISSUANCE June 3, 1986	_

The above named company is required to comply with all indicated items on this list as a condition of the permit approval. Satisfactory evidence of compliance with these conditions should be supplied to the Sanitation Districts where requested. Satisfactory evidence will consist of a minimum of written notification signed by a responsible company official, and in some cases may involve the submission of additional drawings and data.

1. The Environmental Protection Agency (EPA) promulgated the Pretreatment Standards for the Nonferrous Metals Manufacturing Industry on March 8, 1984. According to information provided to the Sanitation Districts, GNB Incorporated is subject to the EPA Nonferrous Metal Manufacturing Regulation 40 CFR Part 421. For existing facilities, the compliance date is March 9, 1987 or as soon as attainable.

The Sanitation Districts are committed to enforce the EPA's pretreatment standards for antimony, arsenic, lead, zinc, and ammonia from nonferrous metal manufacturing mills by March 9, 1987. Violations of the EPA's pretreatment standards may result in the initiation of enforcement action against your company and possible revocation of your Industrial Wastewater Discharge Permit.

The EPA discharge limits are "mass-based", which means the actual discharge limits for a given facility must be calculated based on the production rate at that mill. According to the Baseline Monitoring Report submitted to the Sanitation Districts by GNB Incorporated, the following production rates have been calcualted and used to establish your company's mass discharge limits.

	Unit Process	Production Rate (lbs./day)
_ a)	Battery Cracking	524,270
Þ)	Blast, Reverberatory, or Rotary	535,855
	Furnace Wet Air Pollution Control	•
c)	Casting Contact Cooling	450,737
	Truck Wash	535,855
e)	Facility Washdown	535,855
f)	.Battery Case Classification	524,270
g)	Employee Handwash	535,855 *
g) h)	Employee Respirator Wash	535,855
	Laundering of Uniforms	535,855

- 4 -

The EPA Pretreatment Standard Discharge Limits for GNB Incorporated are as follows:

Pollutant	Maximum Day Process Limit lbs/day	Monthly Average Process Limit lbs/day
Antimony	3.6	1.6
Arsenic	2.6	1.1
Lead	0.53	0.25
Zinc	1.9	0.79
Ammonia	0.0	0.0

For administrative enforcement purposes, the Sanitation Districts have divided the EPA mass discharge limits by GNB Incorporated's wastewater flow rate of 163,000 gallons per day and appropriate conversion factors to obtain the concentration limits. If the flow rate from GNB Incorporated is found to be appreciably different from 163,000 gallons per day, the concentration limits may be revised. All 24-hour composite wastewater samples collected by GNB Incorporated, must comply with the following concentration limits by March 9, 1987:

Pollutant	Maximum Day (mg/l)	Monthly Average (mg/l)
Antimony	2.7	1.2
Arsenic	1.9	0.81
Lead	0.39	0.18
Zinc	1.4	0.58
Ammonia	0.0	0.0

These limits are subject to periodic review and may be changed if your company's production or flow rates are found to change significantly.

For industrial pollutants not regulated by the EPA regulation or where the EPA regulation is less stringent than those of the Sanitation Districts, the Districts will continue to enforce its effluent limitations. The subject EPA regulations do no authorize any violations of the Districts' regulations. The Districts maximum concentration limits (for any wastewater effluent sample) for certain toxic materials are shown in the enclosed table of "Industrial Wastewater Effluent Limitations". Concentration Limits for cadmium and lead for your company are also specified in your company's permit amendment of 12-21-84.

- 2. Surcharge tests of the industrial wastewater must be performed at the intervals indicated on the enclosed Table of Surcharge Test Frequency and submitted annually with the wastewater treatment surcharge statement. The company is reminded that the <u>surcharge tests requirements</u> are independent of the tests for critical parameter reports required in Item No. 3.
- 3. Characterization tests of the industrial wastewater must be performed at the intervals indicated on the Required Characterization Tests form and reported on the enclosed Critical Parameter Report Form. All indicated analyses must be performed by a Sanitation Districts' approved laboratory. The certification section on the back of the Critical Parameter Report Form must be completed and signed by a responsible company official. Revision of the Required Characterization Tests may be considered after initial analyses and upon written request with valid supporting information from the subject company. It is the responsibility of the subject company to report analyses of any other toxic materials shown in the Critical Parameter List, which are known to be present in the wastewater.

- 4. The pH of the wastewater must be maintained above 6.0 at all times. Proper neutralization procedures must be observed to assure that this limit is not exceeded. Batch neutralization is required for any tanks containing acidic solutions before they are discharged to the sewer, if the solution pH is less than 6.0.
- 5. The pH equipment must be regularly calibrated and maintained in good working order. At least 180 days of pH records must be filed at the discharge address and must be made available for inspection by representatives of the Sanitation Districts at any time during business hours. If pH records indicated periods of acidic or alkaline discharge, the applicant may be required to install a pH controlled neutralization system.
- All industrial wastewater discharged to the sewer must not contain over
 0.1 milligram/liter of dissolved sulfides.
- 7. The permittee is required to notify the Sanitation Districts of any change in the status of the subject facility, if ownership or operating responsibility changes, or if the industrial waste connection is legally abandoned.
- 8. A new permit application must be submitted when there is a significant change in wastewater quantity (25% or more) or quality from that given in the approved Permit information. The completed application should be submitted to the local governmental agency for initial processing prior to Sanitation Districts review. Approval must be obtained prior to any construction of new facilities.
- 9. Waste haulers reports must be obtained and kept on file for a period of at least 180 days for any liquid wastes leaving the plant other than in the sewer system. These reports must be made available to representatives of the Sanitation Districts upon request.
- 10. Sampling and Chemical Analysis Procedure for Thiosulfate and Sulfite

The Sanitation Districts' Joint Water Pollution Control Plant is required by the State of California Regional Water Quality Control Board (CRWQCB) to chlorinate its effluent in order to meet coliform standards for the protection of shell fish. High concentrations of chlorine demanding substances such as thiosulfate and sulfite in the wastewater impose an excessive demand for chlorine during chlorination. The Districts have found it necessary to chlorinate during approximately six months of the year in order to meet coloform standards.

Because of possibility of high thiosulfate and/or sulfite concentrations in your effluent, as part of your permit requirements it is required to meet the following requirements:

a) In-plant control and/or pretreatment of industrial wastewater should be implemented to meet effluent limitations of no more than 50 mg/l of thoisulfate (as S), which is the specific limitation established in July 1973 for most industrial companies with high thiosulfate discharges.

- b) You are required to make a daily sampling (24-hour flow proportioned composite sample) and analysis for determination of the thiosulfate (as S) and sulfite (as S) concentrations in your company wastewater. Your daily wastewater flow should also be determined. Monthly reports listing the daily flow and daily concentrations of thiosulfate (as S) and sulfite (as S) should be submitted to the Districts. Enclosed is a copy of the laboratory procedure required to be used to determine thiosulfate concentrations.
- c) The Districts are presently charging industrial companies discharging thiosulfate for the chlorine consumed by these compounds during periods when the Districts are chlorinating at the Joint Water Pollution Control Plant. There is, however, an allowance of 50 pounds per day of thiosulfate (as S) permitted to be discharged without costs. There is no allowance for sulfite to be discharged without cost.
- 11. Storage of Excessive Rainfall Followed by Off-Peak Discharge to the Sewerage System.

The Sanitation Districts' Ordinance prohibits the discharge of rainwater to the sewer system. Discharge of the collected rainwater from retention pond to the sewerage system must be done between 10:00 p.m. and 10:00 a.m. at least 24 hours after cessation of rainfall. For your information, a copy of the Districts' Policy on Rainwater, is enclosed.

For Rainwater Discharge:

- a) A list of operating instructions and a rainwater discharge log sheet, properly signed, for all rainwater discharged with all lab analysis results and dates of discharge shall be provided.
- b) One representative sample of each rainwater pond discharged directly to the sewer shall be collected and stored in good order at the GNB plant for the Districts' compliance verification. The sample shall be labeled with the date of discharge.
- 12. Effective December 31, 1985, the industrial waste permit effluent limits for cadmium and lead for GNB Incorporated are 7 mg/l and 10 mg/l, respectively. GNB must submit four (4) sets of detailed drawings of the proposed wastewater treatment system for the Districts review and approval within 60 days from the date of this letter.
- 13. The after bay of the metering vault is hereby designated as the legal sampling point for the subject company. The permittee is responsible for maintaining and cleaning the sampling point to prevent any build-up of oil and grease, sediment or sludge; failure to do so does not invalidate sampling test results. Analytical results from samples taken from this location according to accepted sampling procedure shall be accepted as binding. Safe and convenient access to the sampling point must be provided for representatives of the Sanitation Districts.
- 14. Regular calibration and maintenance of the flow monitoring system will be required in accordance with the enclosed "Industrial Wastewater Flow Measurement Requirements."

- 15. The proposed flow monitoring system shall be installed and operating by August 3, 1986. The Sanitation Districts shall be given written notification upon completion of the installation. The installation shall not be considered complete until the hereinafter described calibration and report thereof are approved by the Sanitation Districts.
- 16. Since the new system will need to be calibrated after installation, a calibration report should also be prepared and submitted with the above mentioned written notification. The initial calibration should be a full flow calibration conducted in accordance with the above mentioned Districts' "Industrial Wastewater Flow Measurement Requirements" and the enclosed calibration report forms.
- 17. Manufacturer's calculations, catalogue cuts, and data sheets shall be included with the above mentioned calibration report for the manufactured equipment to be installed as part of the flow monitoring system. Complete rating data and calculations shall be submitted for any engineered flow metering device.
- 18. The Districts shall be notified within 48 hours of the commencement of construction of the new metering system and of the abandonment of (by cut and plug) the existing outfall line to the connection under Permit No. 10836 (Ref. Permit No. 8377).
- 19. Two sampler pacing sockets shall be installed by the sampling point. Two sockets shall be wired in parallel.
- 20. Information requested, or satisfactory evidence of compliance, must be submitted to the Sanitation Districts within 60 days to satisfy condition numbers 12 and 15.

SANITATION DISTRICTS OF LOS ANGELES COUNTY INDUSTRIAL WASTE SECTION

REQUIRED WASTEWATER CHARACTERIZATION TESTS

m Name	GNB Incorporated	P	ermit No	11092	
Address of Property	2717 S. Indiana Street		Date Jur	ne 3, 1986	
Producing Wastewater Discharge	Vernon, CA 90023		_ S.I.C.No	3341	
Frequency of Analyses	1 per 3 months	<u>1/</u> Flow_	58 Mil	llion	Gal/Y
•					

The following analyses and flow measurements shall be reported at the indicated frequency to the Sanitation Districts on the Districts' Critical Parameter Report Form (copy attached), which must be signed by an administrative officer of the company. Certain requested characterization tests may be deleted from future reports, if it can be demonstrated in writing that they exist in very minute amounts in the wastewater and are not used in any processes which generate wastewater.

Ident. Code	Test <u>3</u> /	Ident. Code	Test <u>3/</u>
A	Flow (Total) . <u>2/</u>	Q	Chromium
В	Flow (Peak) 2/	S	Copper
E	COD	U	- <u>L</u> ead
D	SS (Suspended Solids)	W	Mercury
E	рН	FF	Zinc .
G	Ammonia	GG	Oil & Grease
Н	Sulfide - Dissolved	00	Thiosulfate
L	Antimony	Al	Sulfite (SO ₃ as S)
м	Arsenic		
P	Cadmium		

^{1/} Companies required to submit only annual characterization analysis data should submit it directly to the Districts on July 1; companies required to submit data every 6 months should submit data on January 1, and July 1; companies required to submit data every 3 months should submit data on January 1, April 1, July 1, and October 1. Required industrial wastewater characterization analysis data not received within 45 days of the required date will be considered delinquent and a possible cause for revocation of the Industrial Wastewater Discharg Permit.

Total Flow and maximum 30-minute peak flow rate for the day when composite characterization sample is taken.

It is the responsibility of the subject company to report analyses of any other toxic materi shown on the Critical Parameter Report Form, which are known to be present in the wastewater or may occur in the wastewater as a result of a process change.

SANITATION DISTRICTS OF LOS ANGELES COUNTY

TABLE OF SURCHARGE TEST FREQUENCY

YEARLY CU	MULATIVE FLOW	Required Frequency of Tests for Surcharge Parameters
Million Gallons	Million Cubic Feet	(Critical Parameters A, B, C, D) 1/ (Flow, Peak Flow, COD and Suspended Solids, respt.)
Less than 6.0	Less than 0.80	0 <u>2</u> /
6.0 to 15.0	0.80 to 2.00	1 per 6 Months
15.1 to 36.0	2.00 to 4.80	1 per 3 Months
36.1 to 250	4.80 to 33.33	1 per Month
Over 250	Over 33.33	1 per Week

NOTES:

- Companies having peak flows of 100 gallons per minute or more or total flows of 50,000 gallons per working day or more must provide a continuous automatic indicating, totalizing and recording or total industrial wastewater flows discharged.
- 2/ Companies with cumulative yearly flows less than 6.0 million gallons may determine surcharge parameters for use in the "Long Form" Surcharge Statement or may pay for discharge at the current flat rate charge per million gallons used in the "Short Form" Surcharge Statement and not test for surcharge parameters. At least two determinations of the surcharge parameters must be made to furnish data for use in the "Long Form" Surcharge Statement.

Charles W. Carry, Chief Engineer & General Manager Telephone: (213) 699-7411 / From Los Angeles (213) 685-5217

INDUSTRIAL WASTEWATER

PERMIT NO.

	RITICAL PARAMETER REPORT FORM	
GNB INCORPORATED Prints Name of Company Having Wastewater Discharge		SIC Number(s)
2717 S. INDIANA ST. YERNO	N CA 90023	
(Print) Address of Wastewater Discharge (Print) Sample Date	Sample Point Location	Reporting Period
DAILY WATER USE FOR REPORTING PERIOD (GAL	.) AVG	MAX
WASTEWATER FLOW (A,B) DETERMINED BY: TYPE OF SAMPLE: GRAR	MENT	ADJUSTED METERED WATER SUPF

CRITICAL PARAMETER VALUES

Section Sect	<u> </u>			**************************************		ONITIONS LAND	,		
371, 372, 372, 372, 373, 374, 375, 376, 377,	TITY VAL	QUANT	2/	PARAMETER 1/		QUANTITY VALUES	2/	PARAMETER_1/	
3 (E) WASTEWATER FLOW (Peak)	ŧ				371,	gals/day		WASTEWATER FLOW (Total)	3 (A)
Discription	Degre	1		TEMPERATURE		gals/mi,		WASTEWATER FLOW (Peak)	3(8)
### ### ##############################	U			COLOR	NN-104	mg/1		COD	(C-403)
F-155 TOTAL DISSOLVED SOLIDS mg/1 CO-704 MAGNESIUM Mg/1 RR-719 POTASSIUM Mg/1 RR-719 POTASSIUM Mg/1 SS-706 BARIUM Mg/1 TT-204 M1TRATE Mg/1 TT-204 M1TRATE Mg/1 TT-204 M1TRATE Mg/1 TT-204 M1TRATE Mg/1 WW-257 SULFATE Mg/1 WW-257 SULFATE Mg/1 WW-257 SULFATE Mg/1 WW-257 SULFATE Mg/1 XX-311 PHOSPHATE - ORTHO Mg/1 SCO BERYLLIUM - Total Mg/1 SCO CHROMIUM - Total	rı.			THIOSULFATE (S)	00.253	mg/1		SS (Suspended Solids)	0.151)
G-20D AMMONIA (N) mg/1 RR-719 POTASSIUM	FT FT			CALCIUM	PP-703	Units		рH	£.101
Fig. Sulfide - Dissolved mg/1 SS-706 BARIUM Mg/1 TT-204 NITRATE Mg/1 TT-205 Mg/1	£1			MAGNESIUM	00.704	mg/1		TOTAL DISSOLVED SOLIDS	F-155
1-206 CYANIDE	п			POTASSIUM	RR-719	mg/1		AMMONIA (N)	G.20D
J-313 FLUORIDE mg/1 UU-301 CHLORIDE	п	1		BARIUM	SS-706	mg/1	İ	SULFIDE - DISSOLVED	(H-252)
707 ALUMINUM - Total mg/1 VV-319 BROMIDE	п	1		NITRATE	TT-204	mg/1		CYANIDE	1-206
Martimony - Total mg/1 WW-257 SULFATE	п		······································	CHLORIDE	UU-301	mg/1		FLUORIDE	J-313
Total Tota				BROMIDE	VV-319	mg/1		ALUMINUM - Total	707
N-726 BERYLLIUM - Total mg/1 620 BENZENE	· n			SULFATE	WW-257	mg/1	1	ANTIMONY - Total	725
D-314 BORON - Total mg/1 604 CARBON TETRACHLORIDE	- IT	T		PHOSPHATE - ORTHO	XX-311	mg/1		ARSENIC - Total	705
CADMIUM - Total mg/1 611 CHLOROBENZENE	- F			BENZENE	620	mg/1		BERYLLIUM - Total	N-726
C-709 CHROMIUM - Total mg/1 613 DICHLOROBENZENE	 į			CARBON TETRACHLORIDE	604	mg/1		BORON - Total	0-314
R-711 COBALT - Total mg/1 619 1, 2-DICHLOROETHANE S-712 COPPER - Total mg/1 603 1, 1, 1-TRICHLOROETHANE T-713 IRON - Total mg/1 657 2-CHLOROPHENOL U-714 LEAD - Total mg/1 658 2, 4-DICHLOROPHENOL U-715 MANGANESE - Total mg/1 663 PENTACHLOROPHENOL W-717 MERCURY - Total mg/1 664 2, 4, 6-TRICHOROPHENOL X-732 MOLYBDENUM - Total mg/1 602 CHLOROFORM Y-718 NICKEL - Total mg/1 626 2, 4-DIMETHYLPHENOL Z-720 SELENIUM - Total mg/1 624 ETHYL BENZENE AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 606 TRICHLOROETHYLENE DD-735 TIN - Total mg/1 525 HCH (Total) - TF-724 ZINC - Total mg/1 530 CHLOROANE (Total)		1		CHLOROBENZENE .	611	mg/1		CADMIUM - Total	F-708>
S-712 COPPER - Total mg/1 603 1, 1, 1-TRICHLOROETHANE		1		DICHLOROBENZENE	613	mg/1		CHROMIUM - Total	(0.709)
T-713 IRON - Total mg/1 657 2-CHLOROPHENOL	P	1		1, 2-DICHLOROETHANE	619	mg/1		COBALT - Total	R-711
U-714	$\overline{\mu}$	1		1, 1, 1-TRICHLOROETHANE	603	mg/1		COPPER - Total	S-712
V-716 MANGANESE - Total mg/1 663 PENTACHLOROPHENOL W-717 MERCURY - Total mg/1 664 2, 4, 6-TRICHOROPHENOL X-732 MOLYBDENUM - Total mg/1 602 CHLOROFORM Y-718 NICKEL - Total mg/1 626 2, 4-DIMETHYLPHENOL Z-720 SELENIUM - Total mg/1 624 ETHYL BENZENE AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 621 TOLUENE DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - FF-724 ZINC - Total mg/1 530 CHLORDANE (Total)	P			2-CHLOROPHENOL	657	mg/1		IRON - Total	T-713
W-717 MERCURY - Total mg/1 664 2, 4, 6-TRICHOROPHENOL X-732 MOLYBDENUM - Total mg/1 602 CHLOROFORM Y-718 NICKEL - Total mg/1 626 2, 4-DIMETHYLPHENOL Z-720 SELENIUM - Total mg/1 624 ETHYL BENZENE AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 621 TOLUENE DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - mg/1 FF-724 ZINC - Total mg/1 530 CHLORDANE (Total)	μ			2, 4-DICHLOROPHENOL	658	mg/1		LEAD - Total	U-732
X-732 MOLYBDENUM - Total mg/1 602 CHLOROFORM Y-718 NICKEL - Total mg/1 626 2,4-DIMETHYLPHENOL Z-720 SELENIUM - Total mg/1 624 ETHYL BENZENE AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 621 TOLUENE DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - FF-724 ZINC - Total mg/1 530 CHLORDANE (Total)	μ			PENTACHLOROPHENOL	663	mg/1		MANGANESE - Total	V-716
Y-718 NICKEL - Total mg/1 626 2, 4-DIMETHYLPHENOL Z-720 SELENJUM - Total mg/1 624 ETHYL BENZENE AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 521 TOLUENE DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - FF-724 ZINC - Total mg/1 530 CHLORDANE (Total) -	μ			2, 4, 6-TRICHOROPHENOL	664	mg/1		MERCURY - Total	(W-717)
Z-720 SELENIUM - Total mg/1 624 ETHYL BENZENE AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 621 TOLUENE DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - FF-724 ZINC - Total mg/1 530 CHLORDANE (Total)	μ			CHLOROFORM	602	mg/1		MOLYBDENUM - Total	X-732
AA-722 SILVER - Total mg/1 601 METHYLENE CHLORIDE BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE CC-734 THALLIUM - Total mg/1 521 TOLUENE DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - mg/1 530 CHLORDANE (Total)	μ			2, 4-DIMETHYLPHENOL	626	mg/1		NICKEL - Total	Y-718
BB-723 SODIUM - Total mg/1 607 TETRACHLOROETHYLENE	μ			ETHYL BENZENE	624	mg/1		SELENIUM - Total	Z-720
CC-734 THALLIUM - Total mg/1 521 TOLUENE	μ			METHYLENE CHLORIDE	601	mg/1		SILVER - Total	AA-722
DD-735 TIN - Total mg/1 606 TRICHLOROETHYLENE EE-736 TITANIUM - Total mg/1 525 HCH (Total) - mg/1 530 CHLORDANE (Total)	μ			TETRACHLOROETHYLENE	607	mg/1		SODIUM - Total	BB-723
EE-736 TITANIUM - Total - mg/1 525 HCH (Total) - mg/1 530 CHLORDANE (Total)	μ	T		TOLUENE	521	mg/1		THALLIUM - Total	CC-734
FF-724 ZINC - Total - mg/1 530 CHLORDANE (Total)	μ			TRICHLOROETHYLENE	606	mg/1		TIN - Total	DD-735
	μ			HCH (Total) -	525	mg/1		TITANIUM - Total	
CG 409 OU & CREASS	μ			CHLORDANE (Total)	530	mg/1		ZINC - Total -	FF.724
GO-OF OFE GREASE	μ			DDT (Toul)	507	mg/1		OIL & GREASE	GG-408
HH-312 PHENOLS mg/1 521 PCBs (Total)	μ			PCBs (Total)	521	mg/1		PHENOLS	HH-312
II-315 SURFACTANTS (MBAS) mg/1 512 ALDRIN	μ			ALDRIN	512	mg/1		SURFACTANTS (MBAS)	11-315
"6 NONIONIC SURFACTANTSINIDI mg/1 514 ENDRIN	μ			ENDRIN	514	mg/1		NONIONIC SURFACTANTS(NID)	-16

^{1/} Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater, Those paramete required by the Districts but known to be absent from the westewater may be reported by placing the word absent in the appropriate space. Test procedure must be in accordance with procedures contained in the current edition of STANDARD METHODS, if applicable. Test procedures for priority organics mu be run in accordance with the appropriate EPA method.

SURCHARGE ACCOUNT NO.

^{2/} If values are obtained by measurements or analyses write A in this column. Analysis values must be determined, using many in the column. הוסקתופי הויר ' samples (unless the parameter is identified by footnote 4/), by a State Certified or Districts Approved Laboratory, 11 valu-· · · · re, writ E in this column, Estimated values are acceptable for new plants only.

³⁷ Report flow rates for someting pay.

39 Grap some or child be considered with pinon, chans taken to insure that the strike constituents are preserved.

OTHER CRITICAL PARAMETERS

QUANTITY VALUES

2/

IDENT.

CODE

PARAMETER

(PRINT) Name and Address of Laboratory Preparing Analyses (PRINT) Name and Address of Company Collecting Wastewater Sample CERTIFICATION BY PERMITTEE I certify, under the penalty of perjury, that I have personally examined, and am familiar with, all or Parameter Report. Based upon my inquiry of those persons immediately responsible for obtaining the infort I believe that the information is a true and correct representation of the wastewater discharged from the states of the state of the stat						
(PRINT) Name and Address of Company Collecting Wastewater Sample - CERTIFICATION BY PERMITTEE I certify, under the penalty of perjury, that I have personally examined, and am familiar with, all of Parameter Report. Based upon my inquiry of those persons immediately responsible for obtaining the information is a true and correct representation of the wastewater discharged from the states. Signature of responsible company official:						
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CERTIFICATION BY PERMITTEE I certify, under the penalty of perjury, that I have personally examined, and am familiar with, all or Parameter Report. Based upon my inquiry of those persons immediately responsible for obtaining the information is a true and correct representation of the wastewater discharged from the statistical supports of the company official:						
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CERTIFICATION BY PERMITTEE I certify, under the penalty of perjury, that I have personally examined, and am familiar with, all o arameter Report. Based upon my inquiry of those persons immediately responsible for obtaining the inforbelieve that the information is a true and correct representation of the wastewater discharged from the statistical injuries of responsible company official:						
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	Parameter Report, Based upon my in	quiry of th	at I have perso ose persons im	nally examined mediately respo	, and am familiar	ng the infor
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IDENT.

CODE

PARAMETER

Please submit this report to:

INDUSTRIAL WASTE SECTION
Senitation Districts of Los Angeles County
P.O. Box 4998
Whittier, CA 90607

B.Bitteries Inc.

Metals Division

2700 So. Indiana St. P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone: (213) 262-1101



May 14, 1985

Mr. Hank H. Yacoub Regional Water Quality Control Board 107 S. Broadway - Room 4027 Los Angeles, CA 90012-4596

Dear Mr. Yacoub:

Enclosed is our application for facility permit/waste discharge for our rain-water retention pond. As you know, we are required by the County Sanitation Districts of Los Angeles County to provide a surface impoundment that will contain a six inch rainfall on the property, and, further, that we must retain the water until twenty-four hours after the cessation of the rainfall before beginning to discharge it.

To meet the above requirement, a 2.3 million gallon double-lined surface impoundment has been constructed. The collection system and grading of the property will be completed this summer, prior to the onset of the fall rains. Monitoring wells have been installed per your instructions and are shown on the enclosed prints.

The quality of the water contained should be quite good since it is only rainwater. It is expected that some particulate will be washed from the buildings and grounds but it is likely that airborne dust carried some distance by the winds will be the major contributor to the particulate content. Cleaning the sediment from the impoundment is expected to take place once a year and will be accomplished by slurrying the solids with water and pumping the slurry into the process tanks. Once combined with the process waters, the slurry will be treated and filtered before discharge into the sanitary sewer. Since rainfall is seasonal in this area we expect the impoundment to be dry during the summer and fall months.

In accordance with your recommendation we think it should be designated as a Class II site.

Please contact me if I can be of any assistance.

Yours sincerely,

Kenneth G. Clark Technical Manager

Kennet & Clark

KGC:mlf

Enc.

09881

REGICIAL WATER QUALITY CONTROL BOARD DEPARTMENT OF HEALTH SERVICES SOLID WASTE MANAGEMENT BOARD DEPARTMENT OF FORESTRY

FACILITY PERMIT/WASTE DISCHARGE

1. X REPORT OF WASTE DISCHARGE (pursuant to Division 7 of the State Water Code) 2. APPLICATION FOR A HAZARDOUS WASTE FACILITY PERMIT (pursuant to Health and Safety Code Section 25200) 3. APPLICATION FOR A SOLID WASTE FACILITIES PERMIT (pursuant to Government Code Section 66796.30)	Form 200 Rec'd
2. APPLICATION FOR A HAZARDOUS WASTE FACILITY PERMIT (pursuant to Health and Safety Code Section 25200) 3. APPLICATION FOR A SOLID WASTE FACILITIES PERMIT	Fee (HWOCB)(SWMB)
4. Loursuant to Health and Safety Code Section 25200) 3. APPLICATION FOR A SOLID WASTE FACILITIES PERMIT	Letter to Discharger
	Report Rec'd_
	Effective Date
4. APPLICATION FOR A RUBBISH DUMP PERMIT	CDF Notified
(pursuant to Public Resources Code Sections 4371—4375 and 4438)	SWMB No.
1. FACILITY	SWMB NO.
NAME OF FACILITY	TELEFFORE P
GNB INCORPORATED, METALS DIVISION	(213) 262-1101 .
2700 South Indiana Street, Los Angeles, California	90023
GNB INCORPORATED	()
P. O. Box 64140 St. Paul, Minnesota	55164
Same	()
	AP COOL
Sole Proprietorship Partnership X Corporation	Government Agency
AME OF OWNER(S) OF BUSINESS OPERATING PACILITY	TELEPHONE O
ADDRESS WHERE LECAL MOTICE MAY DE BERVED	Bir cobe
2700 South Indiana Street Los Angeles, California	90023
II, REASON FOR FILING	
IER out apparents:	_ • .
A X New discharge or facility D. Change in character of discharge G.	
B. Existing discharge or facility E. Change in place or method of disposal H. C. Increase in quantity of discharge F. Change in design or operation	Enlargement of existing facility Other (explain below)
III. TTPE OF OPERATION	
an age arrangiant.	
	- Wandamen site
A. Transfer station D. Sewege treatment G.	Woodwaste site Other (explain below)
A. Transfer station D. Sewege treatment G.	Woodwaste site Other (explain below)
A. Transfer station D. Sewage treatment G. Solid waste disposal site E. Industry (on-site disposal facility) H. Hazardous waste disposal site F. Industry (discharge to sewer)	
A. Transfer station D. Sewage treatment G. Solid wasta disposal site E. Industry (on-site disposal facility) Hazardous wasta disposal site F. Industry (discharge to sewer) Rainwater retention before discharge to Sewer.	
A. Transfer station B. Solid waste disposal site C. Hazardous waste disposal site F. Industry (discharge to sewer) Rainwater retention before discharge to sewer.	
A. Transfer station B. Solid wasta disposal site C. Hazardous wasta disposal site Rainwater retention before discharge to sewer IV. TYPE OF WASTE Sewage treatment Industry (on-site disposal facility) H. Industry (discharge to sewer) IV. TYPE OF WASTE	X Other (explain below)
A. Transfer station B. Solid waste disposal site C. Hezardous waste disposal site F. Industry (discharge to sewer) Rainwater retention before discharge to sewer. IV. TYPE OF WASTE	Other (explain below)
A. Transfer station B. Solid waste disposal site C. Hazardous waste disposal site Rainwater retention before discharge to sewer IV. TYPE OF WASTE A. Sewage sewage sludge, and/or septic tank pumpings E. Agricultural wastes L. Agricultural wastes	X Other (explain below)
A. Transfer station B. Solid wasta disposal site C. Hazardous wasta disposal site F. Industry (on-site disposal facility) H. Industry (discharge to sewer) Rainwater retention before discharge to Sewer. IV. TYPE OF WASTE A. Sewage sewage sludge, and/or septic tank pumpings II. Agricultural wastas I. Animal wastes J. Mainwal wastes	Other (explain below) Inert materials Dead enimels
A. Transfer station B. Solid wasta disposal site C. Hazardous wasta disposal site F. Industry (on-site disposal facility) H. Industry (discharge to sewer) Rainwater retention before discharge to Sewer. IV. TYPE OF WASTE C. Apricultural wastas B. Industrial wastas F. Apricultural wastas C. Municipal solid wastas K.	Other (explain below) Inert materials Dead enimals Tires
A. Transfer station B. Solid waste disposal site C. Hazardous waste disposal site F. Industry (on-site disposal facility) H. Industry (discharge to sewer) Rainwater retention before discharge to sewer. IV. TYPE OF WASTE Severage studge, and/or septic tank pumpings Industrial wastes F. Apricultural wastes Animal wastes C. Municipal solid wastes H. Construction/demolition wastes L. Construction/demolition wastes	Other (explain below) Inert materials Dead enimals Tires
A. Transfer station B. Solid wasta disposal site C. Hazardous wasta disposal site F. Industry (on-site disposal facility) H. Industry (discharge to sewer) Rainwater retention before discharge to Sewer. IV. TYPE OF WASTE IV. TYPE OF WASTE A Sewage, sewage sludge, and/or septic tank pumpings Industrial wastes B. Industrial wastes C. Municipal solid wastes D. Hazardous wastes H. Construction/demolition wastes Rainwater V. SITE DESIGN CAPACITY S. DESI	Other (explain below) Inert materials Dead enimals Tires

BAHY TLOW (IN MED):	2.3	. 0	.015.
C. SOLIÚ WASTE DISPOSAL PETE (IN TONS OR CUBIC TANDS):		TOTAL IN PLACE BY	(IN ACRES)
			OF DISPOSAL OR OPERATION
DESIGN AND ATTACH MAP,	SKETCH, OK LOCATION B AND DISTANCE PROM	SECTION CORNER OR	LE MAP, 1,5 OR 15 MINUTE SERIES.) WARTER CORNER, SECTION, TOWNSHIP, RANGE, BASE AND MERIDIAN;
See attached	i property desc	ription	
	, .		
	· •	• • • • • • • • • • • • • • • • • • • •	
	• . • •		
·			
	VII	I. SOURCE OF WATER	SUPPLY (CHECK ALL APPROPRIATE)
MUNICIPAL OR UTI	ILITY SERVICE:		B. INDIVIDUAL (Wells)
AAME OF WATER PURVEYOR	· · · · · · · · · · · · · · · · · · ·	•	C. X SURFACE SUPPLY: Rainwater
-Abbatts of Punveron		·	NAME OF STREAM, LAKE, SPRING, ETE. (IF NAMED)
			Riperian Appropriation
		IX. ENVIRONMENT	AL IMPACT REPORT (EIR)
If "Yes", pleas If "No", will a Will a negative dec	prepared for this project? e enclose a copy. n EIR be prepared? claration be prepared? e answer the following:	Yes X N Yes X N Yes X N Yes X N	
		CERT	FICATION
	under penalty of accurate to the be	perjury that the ir	formation provided in this application and in any attach-
IGHATURE OF GWHER OF F	ACILITY		Row L Smith
	· .	:	Robert L. Smith
	· · · · .	BATE	Director, Western Region 5/14/85
LET TITLES OF ANT ATTACH	MENTS:		
			igashi & Moore - Sheet 1 of 9 -724-102D, 39-724-103D, 39-724-104D

You will be notified of the correctness of filing fee and submittel of any additional information deemed necessary to complete your Report of Waste Discharge pursuant to Division 7, Section 13250 of the State Water Code, or to complete your permit application pursuant to Government Code Section 66796.30 and Health and Safety Code Section 25200.

09883

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD— 'S ANGELES REGION

. SOUTH BROADWAY, SUITE 4027 JS ANGELES, CALIFORNIA 90012-4596 (213) 620-4460



November 17, 1986

Kenneth G. Clark
Technical and Environmental Manager
GNB Incorporated
Metals Division
2700 South Indiana Street
Los Angeles, CA 90023

FACILITY INSPECTION UNDER THE TOXIC PITS CLEANUP ACT OF 1984 (File No. 85-50)

On November 6, 1986, your facility was inspected by staff from the Regional Water Quality Control Board (Board) to verify that you are not affected by the Toxic Pits Cleanup Act (TPCA) of 1984 [Article 9.5 (commencing with Section 25208) of Chapter 6.5 of Division 20 of the Health and Safety Code]. On the basis of our inspection, Board staff have determined that:

- [xx] you do not own a surface impoundment as defined in Section 25208.1(w) of the Health and Safety Code.
- [] you do not store hazardous waste.
- [] your container is a flow-through device regulated and permitted by a local agency.
- [] your container is an underground tank regulated and permitted by a local agency.

[.]

Thank you for yor assistance in this matter. The name of your facility has now been removed from the Regional Board's list of sites possibly subject to TPCA. If additional information concerning the TPCA Program is needed, please contact me at (213) 620-4397 or Mr. Jonathan Mulder at (213) 620-5436.

HANK H. YACOUB

Supervising Water Resource

Control Engineer

cc: State Water Resources Control Board
Division of Water Quality

POST IN A CONSPICUOUS PLACE

HEALTH AND ENVIRONMENTAL CONTROL SECTION

CITY OF VERNON

4305 SANTA FE AVENUE, VERNON, CA 90058 (213) 583-8811, EXT. 33

HEALTH PERMIT

PERMIT TYPE OWNER'S NAME

BUSINESS

UNDERGROUND TANKS
C.A. GILHAN (DAY CONTACT)
2700 S. INDIAHA ST.
VERNON, CA 90023

BUSINESS

MAILING ADDRESS GNB INCORPORATED PO BOX 23957 ATTH: C.A. GILMAN

LOS ANGELES, CA 90023-0957

BY True

THE PERSON, FIRM OR CORPORATION ABOVE NAMED IS HEREBY GRANTED A PERMIT TO ENGAGE IN THE BUSINESS DESCRIBED ABOVE IN THE CITY OF VERNON FOR THE PERIOD INDICATED.

FOST IN A CONSPICUOUS PLACE

HEALTH AND ENVIRONMENTAL CONTROL SECTION

CITY OF VERNON 4305 SANTA FE AVENUE, VERNON, CA 90058

(213) 583-8811, EXT. 33

(01) NG244 EXPIRE 96/30/89 (30) PRO/ELM 199 (40) FEE PAID \$250.00

HEALTH PERMIT

PERMIT TYPE
OWNER'S NAME

HAZARDOUS MATERIALS CLASS - C KEN CLARK - PRIMARY 2717 S. INDIANA ST. VERNON, CA 90023

BUSINESS LOCATION

BUSINESS

MAILING ADDRESS GNB INCORPORATED 2700 S. INDIANA ST.

LOS ANGELES, CA 90023

Jan Janes

THE PERSON, FIRM OR CORPORATION ABOVE NAMED IS HEREBY GRANTED A PERMIT TO ENGAGE IN THE BUSINESS DESCRIBED ABOVE IN THE CITY OF VERNON FOR THE PERIOD INDICATED.

POST IN A CONSPICUOUS PLACE

HEALTH AND ENVIRONMENTAL CONTROL SECTION

CITY OF VERNON
4305 SANTA FE AVENUE, VERNON, CA 90058
(213) 583-8811, EXT. 33

(01) NO. <u>0202</u>
EXPIRES <u>12231288</u>
(30) PROZELM <u>4455</u>
(40) FEE PAID <u>\$78.0</u>

HEALTH PERMIT

PERMIT TYPE
OWNER'S NAME

BUSINESS LOCATION WASTE PROCESSING FACILITY

2700 IHDIANA ST. VERNON, CA 90023

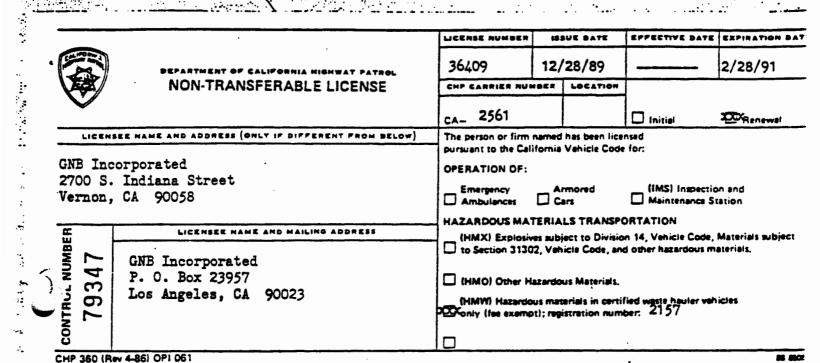
BUSINESS

MAILING ADDRESS GNB, INCORPORATED

2700 INDIANA ST. VERHON, CA 90023

By Small hicker

THE PERSON, FIRM OR CORPORATION ABOVE NAMED IS HEREBY GRANTED A PERMIT IN ENGAGE IN THE BUSINESS DESCRIBED ABOVE IN THE CITY OF VERNON FOR THE PERIOD INDICATED.



DEPARTMENT OF HEALTH SERVICES

714/744 P STREET *.O. BOX 942732 .iacramento, ca 942347320 y (916) 324-2430



HAZARDOUS WASTE TRANSPORTER REGISTRATION RESTRICTED REGISTRATION

OCT 0 3 1990

ENVIRUNMENTAL DEVELOPMENT

NAME AND ADDRESS OF REGISTERED HAULER:

GNB Incorporated P.O. Box 64100 St. Paul, MN 55164

HAULER REGISTRATION NUMBER: 2157

EXPIRATION DATE: October 31, 1991

This is to certify that the firm named above is duly registered to haul hazardous waste in the State of California in accordance with the provisions of Chapter 6.5, Division 20 of the California Health and Safety Code and Chapter 30, Division 4, Title 22 of the California Code of Regulations.

Please note that this registration is restricted, requiring the inspection of your vehicles/containers on their first trip entering California, and must be carried with the vehicles/containers used to transport hazardous waste. This restricted registration also meets the requirements of California Vehicle Code Section 34100 for the transportation of flammable or combustible liquids in a tank of proper DOT specification, provided that all inspection arrangements have been made with the California Highway Patrol.

To arrange for this inspection, you should contact the Hazardous Materials Section, California Highway Patrol, P. O. Box 942898, Sacramento, CA 94298-0001, telephone (916) 327-3310, to set up an inspection date. This must be completed at least three State working days before the vehicle(s)/container(s) are to enter the state. "State working days" do not include weekends or State holidays. (See enclosed information bulletin).

When transporting hazardous waste or flammable/combustible liquids in California immediately prior to vehicle/container certification, the driver must be prepared to provide the following information to any authorized person:

This Hazardous Waste Hauler Restricted Registration, and

 The telephone number of the California Highway Patrol Motor Carrier Safety Unit that will be inspecting your vehicle and the address of your vehicle/container inspection

AMIHORIZED SIGNATURE

SEP 24 1990

(DATE)

APPENDIX H RE: SECTION 14 FINANCIAL RESPONSIBILITY DOCUMENTS

Inter-Office Memo



TO: KEN CLARK-RRD

FROM: ROBERT JOHNSON

DIV/DEPT: ABD/FINANCE

DATE: June 19, 1990

LOCATION: MENDOTA

....

COPIES:

DICK CROWELL

SUBJECT: IRREVOCABLE LETTER OF CREDIT

#0307278

Attached is a copy of Amendment #2 dated April 30, 1990, to the subject Letter of Credit increasing the amount to \$740,714.00

Robert A. Johnson

RAJ/lar

NATIONAL NESTMINSTER BARK USA TRADE SERVICES DEFARTHENT SO PLAE STREET - 11TH FLOOR NEW YORK, NEW YORK 10005-1702 EL. (212) 602-1240

DATE: APRIL 30, 1990

AMENDMENT NO.2 TO OUR STANDBY L/C NO. G307278

BENEFICIARY;

FOR ACCOUNT OF

TOXIC SUBSTANCES CONTROL DIVISIONS INCORPORATED
DEPARTMENT OF HEALTH SERVICES P.O. 80X 64100
714/744 P STREET ST PAUL, NN 55164-0100
SACRACMENTO CA 95814

OUR SUBJECT LETTER OF CREDIT IS NOW AMENDED AS FOLLOWS:

1) THE LETTER OF CREDIT AMOUNT IS INCREASED BY US\$ 26,979.00

(USDOLLARS TWENTY SIX THOUSAND NINE HUNDRED SEVENTY NINE AND

00/100). TO A NEW BALANCE NOT EXCEEDING \$740,714.00 (USDOLLARS

SEVEN HUNDRED FORTY THOUSAND SEVEN HUNDRED FOURTEEN AND 00/100).

2) THE LETTER OF CREDIT NUMBER IS CHANGED TO READ: \$307278

INSTEAD OF 307278

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED

AUTHORIZED SIGNATURE

2 National Westminster Bank USA

80 Pine Street New York, NY 10005-1702 USA CABLE ADDRESS: "INTIMATE" March 08, 1988

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER 307278

Toxic Substances Control Division
Department of Health Services
714/744 P Street
Sacramento, California 95814
Reference: Hazardous Waste facility No. CAD0978541

Gentlemen:

We hereby establish our Irrevocable Standby Letter of Credit No. 307278 in your favor, for account of GNB Incorporated, P.O. Box 64100, St. Paul, Minnesota 55164-0100 in the aggregate amount of US\$689,133.00 (SIX HUNDRED EIGHTY NINE THOUSAND, ONE HUNDRED THIRTY THREE AND 00/100 UNITED STATES DOLLARS) available as follows by:

- Your sight draft(s) drawn on us, bearing reference to this Letter of Credit No. 307278
- Your signed and dated statement reading: "We certify that the amount of our draft drawn under National Westminster Bank USA Irrevocable Letter of Credit No. 307278 is payable pursuant to regulations issued under authority of the California Hazardous Waste Control Law."

Each draft must be also accompanied by the the original of this Letter of Credit upon which we may endorse our payment.

Partial drawings are permitted.

All drafts drawn under this Letter of Credit must be marked: "DRAWN UNDER NATIONAL WESTMINSTER BANK USA IRREVOCABLE LETTER OF CREDIT 307278 DATED MARCH 08, 1988.

This Letter of Credit is valid until February 28, 1989 and shall thereafter be automatically extended for an additional one year period unless at least one hundred twenty (120) days prior to such expiration date we notify you in writing via registered or certified mail at the above listed address of our intention not to renew this Letter of Credit for such additional period. In the event you are so notified, any unused portion of the Credit shall be available upon presentation to us of your clean sight draft on or before the then current expiration date.

This Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits, 1983 Revision, International Chamber of Commerce Publication No. 400.

B

Authorized Signature

GNB incorporated

Corporate headquarters

Mailing Address: P.O. Box 64100 St. Paul, MN 55164-0100 U.S.A.

1110 Highway 110 Menapta Heights, MN 55118 Telephone (612)681-5000



March 9, 1988

GNB, INCORPORATED MAR 1 0 1989

RECEIVED

CERTIFIED

Director
Toxic Substances Control Division
Department of Health Services
State of California
714/744 "P" Street
Sacramento, CA 95814

RE: GNB Incorporated 2700 South Indiana Street Los Angeles, CA 90023 Hazardous Waste Facility I.D. No. CAD 097854541

Gentlemen:

Enclosed is an executed Stand-by Trust Agreement for GNB Incorporated, Grantor, together with National Westminster Bank USA Letter of Credit No. 307278 dated March 8, 1988, relative to the above.

Very truly yours,

Richard L. Gerstein Corporate Controller

RLG/tt

Enclosure

bcc: Andy Larson

Ev Milton

Curt Peterson Chuck Barry

- CORRECTED LETTER

- MAR 10 1988

LAN DEPARTMENT

Telex: 297035 GNB MEND

This agreen	This apreement is entered into as of <u>March 2. 1988</u> by and between:			
	GRANTOR	TRUSTEE		
D-mer/Davis	GNB Incorporated	NATIONAL WESTMINSTER BANK USA		
Mendota Heights, MN 55118		175 Water St., New York, N.Y. 10038		
D Corporat Partiner In the State	. Proprietorship	Incorporated in the State of A National Bank		

TERMS OF AGREEMENT

WHEREAS, the Department of Health Services (DHS), a paparament of the State of California, has established certain regulations applicable to the Grantor, requiring that an owner of operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility.

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

. WHEREAS, the Grantor, acting through its duly authorized officers, has selected the trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

NOW, THEREFORE, the Grantor and Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the owner or operator who enten into this Agreement and any successors or assigns of the Grantor.
 - (b) The term "Trustee" means the Trustee who enters into this Apreement and any successor Trustee.
 - (c) The term "Beneficiary" means State of California, Department of Health Services.
- Section 2. Identification of Pacifities and Cost Estimates. This Apreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A for each facility list the hazardous waste facility identification number, name, address, and the current closure and/or post-closure cost estimates (indicate the closure and post-closure amounts separately), or ponions thereof, for which financial assurance is demonstrated by this Agreement).
- Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the penefit of the Benefitiary. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all established and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Beneficiary.
 - Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make beginning from the Fund as Beneficiary shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the Beneficiary from the Fund for closure and post-closure expenditures in such amounts as Beneficiary shall direct in writing. In addition, the Trustee shall refund to the Grantom such amounts as Beneficiary specifies in writing. Upon refund, such funds shall not constitute part of the Fund as defined herein.
 - Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities asseptable to the Trustee.

(Page 1 017)

Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee shall discharge his or her duties with respect to the dust fund solery in the interest of the Beneficiary and with the care, skill, prudence and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates at defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2 (a), shall not be acquired or held, unless they are securities or other obligations of the Federal or State Government.
- (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State Government; and
- (III) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.
 - Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:
- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.
- Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:
- [a] To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;
 - (b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
 - (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary expecities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;
 - (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in the separate corporate expectity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State Government; and
 - (e) To compromise or otherwise adjust all claims in favor of or against the Fund.
 - Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Trust extension and the frustee shall annually, at least 30 days prior to the anniversary date of the first securities in the Fund shall be valued at market value as of no more than 60 days price to the anniversal date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within the days after the statement. The fundamental days are shall constitute a conclusively briology assent by the Grantor, barring the Grantor from asserting any classic Capital accounts the Trustee within the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer and pay over to the successor trustee the funds and properties then constituting the Fund. If, for any reason, the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, Beneficiary, and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's proess, requests and instructions. All orders, requests and instructions by the Beneficiary to the Trustee shall be in writing, signed by the Beneficiary designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a mange or a termination of the authority of any person to act on behalf of the Grantor or the Beneficiary hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests and instructions from the Grantor and/or Beneficiary, except as provided for herein.

Estimated Motion of Nonpayment. The Trustee shall notify the Grantor and the Beneficiary, by either recovery continuous and the Beneficiary, by either recovery continuous and the Beneficiary, by either recovery continuous and the Granton continuous and the Granton continuous and period after the pay-in period to complete the Trustee shall not be provided to another of nonpayment.

Section 15. Amendment of Agreement. This agreement may be amended by an instrument in writing executed by the Grantor, the Trustee and the Beneficiary, or by the Trustee and the Beneficiary, if the Grantor takes to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provious in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Beneficiary, or by the Trustee and the Beneficiary, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Beneficiary issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmiess by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor tails to provide such personal.

(Page 5 of 7)

State of California.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The pescriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the perties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that this pocument is being executed in accordance with the requirements of Article 17, Title 22, California Administrative Code.

Signature of Granton:	Titre:
* Visheld	Corporate Controller
Types or Printed Name of Person Signing: Richard L. Gerstein	Seal:
Ass t. Secretary	
•	John The Lilalsh
Signature of Trustee: Sama S. Timos	THUST OFFICER
Lawa L. Simons	Seat:
TISIA	
Trust officer	

PRIVACY STATEMENT

This information is requested by the Department of Health Services, Toxic Substances Control Division, under Health and Safety Code, Section 25245 in order to verify adequate financial assurance of Hazardous Waste Facilities. Completion of the form is mandatory. The consequence of not completing the form is denied of a permit to operate a hazardous waste facility. Information may be provided to U. S. Environmental Protection Agency (EPA), State Attorney General, Air Resources Board, California Waste Management Board, Energy Resources Conservation and Development Commission, Water Resources Control Board and California Regional Water Quality Control Boards. For more information or access to your records, contact the Toxic Substances Control Division, 714 P Street, Sacramento, CA 95814, (916) 324-1626.

SAMPLE

EXHIBIT A

	TRUST	TAGREEMENT BY AND BE	TWEEN GNB Incorporated	
		AND THE Nation	al Westminster Bank USA	
	Beneficiar	ry identified in Section 14 of	Trust Agreement, the persons, other than of the Trust Agreement, who, until this ers, requests, and instructions to the Truste	Exhibit A is
	Officials	s of the Grantor.	•	
	Officials	s of the Grantor who have aut	hority to give instructions are:	÷
	Name:	F. X. Beaudette R. L. Gerstein R. A. Johnson	Executive Vice President Corporate Controller Assistant Treasurer	
	Title:	R. B. Crowell	Assistant Treasurer	
		S	AMPLE	
		EX	HIBIT A	• .
foregoin			s by the Grantor to the Trustee, pursor more of the following persons:	
	Name:		-	

Title:

TRUST AGREEMENT/STANDBY TRUST

SAMPLE SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimate(s) for the following facility(les):

Mazardour Waste Facility Identification Number	Name of Facility	Address of Fecility	Cost Estimates For Which Financial Assurance Being Demonstrated By This Apreement
CAD 097 854 541	LUS Augeles Snelter	Los Auceles, CA 90023	Cibsure 689, 133.00 Post-Ciosure ,00 Total \$ 689, 153.00

The cost estimates listed here were last adjusted on .

JANUARY 1988

. 1	RUST AGREEMENT (ONLY)	
	SAMPLE SCHEDULE B	
The fund is established initially as consisting	of the following:	
5	(Seell out adler amount)	as evidence by Check Number
deted	ution drawn on)	
I hereby certify that funds have been received	and deposited.	
Authorizes Signature	Titia:	
Typed or Printer harno of Person Signing	Asomus:	
/		

STANDBY TRUST AGREEMENT (ONLY)

SAMPLE SCHEDULE B

List of Property Comprising Trust Fund

DHS_10 (2/25)

GNB Incorporated

2700 South Indiana Street P.O. Box 23957 Los Angeles, CA 90023-0957 Telephone (213) 262-1101



November 16, 1990

Mr. David Rasmunson
Department of Health Services
1405 N. San Fernando Blvd., Suite 300
Burbank, CA 91504

Dear Dave:

Please find enclosed two documents which update the corresponding documents in our Part B application.

The first is the renewal of our Hazardous Waste Haulers Registration and the second renews our sudden and non-sudden liability insurance coverage (this previously had been covered by corporate financial assurance).

I'll try to keep this application updated as you consider it.

Sincerely,

Ken

Kenneth G. Clark Tech. & Envir. Manager

KGC:mlf

Encls. (2)



Chicago Branch, 190 South LaSalle Street, Suite 500 Chicago, Illinois 60603

Telephone 312 236 6835 Telex 4330119 and 4330129 Fax 312 236 7112

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IRREVOCABLE STANDBY LETTER OF CREDIT

SEPTEMBER 28, 1990

SBLC 182/8203

Toxic Substances Control Division Department of Health Services 714/744 P Street P.O. Box 942732 Sacramento, CA 94234-7320

Attn: Mr. Richard Castle:

Dear Sir:

We hereby establish our Irrevocable Standby Letter of Credit No. SBLC 182/8203 in favor of any and all third-party liability claimants, at the request and for the account of GNB Inc., P.O. Box 64100, St. Paul, MN 55164-0100, for third-party liability awards or settlements up to Eight Million (\$8,000,000.00) in United States dollars per occurrence, and the annual aggregate amount of Two Million (\$2,000,000.00) in United States dollars for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of Six Million (\$6,000,000.00) in United States dollars for nonsudden accidental occurrences. The maximum amount of drawings under this Standby Letter of Credit should not exceed USD 8,000,000.00, available upon presentation of a sight draft, bearing reference to this Letter of Credit No. SBLC 182/8203 and (1) a signed certificate reading as follows:

Certificate of Valid Claim

The undersigned, as parties GNB Inc. hereby certify that the claim of bodily injury (and/or) property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of GNB Inc. hazardous waste transfer, treatment, storage, or disposal facility should be paid in the amount \$\frac{1}{2}\$. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which GNB Inc. is obligated to pay damages by reason of the assumption of liability to contract or agreement. This exclusion does not apply to liability for damages that GNB Inc. would be obligated to pay in the absence of the contract or agreement.



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- (b) Any obligation of GNB Inc. under a worker's compensation, disability benefits, or unemployment compensation law or any similar law.
 - (c) Bodily injury to:
- (1) An employee of GNB Inc. arising from, and in the course of employment by GNB Inc. or
- (2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by GNB Inc.. This exclusion applies:
- (A) Whether GNB Inc. may be liable as an employer or any other capacity; and
- (B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).
- (d) Bodily injury or property damage arising out of the ownership, maintenance, use or entrustment to others of any aircraft, motor vehicle or watercraft.
 - (e) Property damage to:
 - (1) Any property owned, rented, or occupied by GNB Inc.
- (2) Premises that are sold, given away, or abandoned by GNB Inc., if the property damage arises out or any part of those premises;
 - (3) Property loaned to GNB Inc.
 - (4) Personal property in the care, custody or control of GNB Inc.
- (5) That particular part of real property on which GNB Inc. or any contractors of subcontractors working directly or indirectly on behalf of GNB Inc. are performing operations, if the property damage arises out of these operations.

Signatures Principal

Signatures Claimant(s)



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Or (2) a valid final court order establishing a judgment against GNB Inc. for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from operation of the GNB Inc. facility or group of facilities.

Special Instruction

This Letter of Credit is valid until September 28, 1991 and shall thereafter be automatically renewed for a one-year period upon such date and upon each successive anniversary of such date, unless at least one hundred-twenty (120) days prior to such expiration date or each successive anniversary of such date we notify you in writing by either registered or certified mail that we elect not to renew the Letter of Credit for such additional period. In the event you are so notified, any unused portion of the credit shall be available upon presentation to us of your clean sight draft on or before the then current expiration date.

This credit is subject to, "The Uniform Customs and Practice for Documentary Credits, (1983 Revision), International Chamber of Commerce Publication No. 400."

AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED CHICAGO BRANCH

190 South LaSalle Street Suite 500 Chicago, IL 60603

Patrick A. Botticelli Vice President - Corporate Ronald A. Kowalski International Banking Officer

Date September 28, 1990

Application For Irrevocable Documentary Standby Letter of Credit

ro: **ANZ** Bank

Chicago, Illinois 60603

Australia and New Zealand Banking Group Limited Chicago Branch, 190 South LaSalle Street, Suite 500

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* DATE - 3

FOR BANK USE ONLY

Telephone 312 236 6835 Telex 4330119 and 4330129 Fax 312 236 7112

09/25/90

NAME

Please issue an irrevocable Documentary Standby Letter of Credit substantially in accordance with this application and transmit it as indicated below (by "X"). In issuing the Credit you are expressly authorized to make such changes from the terms herein below set forth as you, in your sole discretion, may deem advisable provided that no such changes shall vary the principal terms hereof. ☐ Through your correspondent for delivery to the beneficiary □ Airmail ☐ Brief Cable ☐ Full Cable Directly to the beneficiary By ☐ To us for transmission to the beneficiary □ Overnight Courier □ Other _ · APPLICANT THIS SECTION FOR BANK USE ONLY UNLESS YOU DESIGNATE ADVISING BANK GNB INCORPORATED PO BOX 64100 ST. PAUL, MN. 55164-0100 AMOUNT (UP TO) BENEFICIARY IN FIGURES TOXIC SUBSTANCES CONTROL DIVISION USD 8,000,000.00 DEPARTMENT OF HEALTH SERVICES IN WORDS 714/744 P. STREET DOLLARSS EIGHT MILLIAN U.S. P. O. BOX 942732 EXPIRY DATE (Month in words, day, year) UNLESS OTHERWISE SACRAMENTO, CA. 94234-7320 FOR PRESENTATION OF DOCUMENTS TO YOU UNLESS OTHERWISE INDICATED: MR. RICHARD CASTLE ☐ NEGOTIATION FOR: SIGHT PAYMENT Draft(s) at sight to be drawn on you or (Specify any other drawee). nd accompanied by documents as indicated below: → BENEFICIARY'S SIGNED STATEMENT READING: ** AS PER ATTACHED ~ OTHER DOCUMENTS/CONDITIONS: (COMPLETE ONLY WHEN THE BENEFICIARY BANK IS TO ISSUE ITS UNDERTAKING BASED ON THE ISSUED STANDBY LETTER OF CREDIT) ☐ Request beneficiary bank to issue and deliver their (Specify type of undertaking). in favor of . for an amount not exceeding the amount specified above, effective immediately and expiring at their office on relative to (Specify contract number of other perment reference). Partial drawings permitted if not checked as

Prohibited

TELEPHONE NO (_____)

SHOULD THERE BE A NEED TO CLARIFY OUR ABOVE INSTRUCTIONS. PLEASE CONTACT:

STANDBY CREDIT AGREEMENT

As consideration for issuing to our instruction your Standby Gredit (as requested on the other side and as it may be not carried the Great!) the undersigned unconditionally agrees (jointly and severally if there is more train one of the control as follows:

Indicate the state currency the amount paid or the state currency the amount paid or to be paid by you or your agent or any part, any pour behalf or leach drawn or other proper in strument or demand drawn or presented under the Gitch little litter's train be remitted on demand. If them are paid to include the Gitch little litter's train be remitted on demand. If them are paid to include the Gitch content that United States courier to we have a remove the content of the state of courier at the area which you see such other currency. In Chicago in exchange the United States obtains for cape transfer to the pure or payment of the field of the field of the state o

- Commission and Charges. We shall pay you on demand any commissions or less with respect to the Credit which fees
 and commissions shall be at such rates at you may reasonably establish. In addition we shall re-mourse, but for any and
 all costs lengths and liabilities incurred or paid by you in connection with the Credit and this Agriement.
- 3. Interest. We shall pay you on demand interest at the rate per annumined as to the sum of 2% bus the rate quoted by you as your prime commercial rate from time to time in effect for Units 2 States dollar loans on all amounts papedly, you or any other drawer under any tiem the Creot or this Agreement from the date of such payment units, our receive our reimbursement interest shall be calculated on the basis of a 360-day year and paid for actual days elabsed.
- 4. Set 0ff. We authorize you to charge any account or other funds in your possession for the payment of our Elabidities as defined in Section 8 of this Agreement.
- Continuation of Liability. Regardless of the epiration date of the Gredit we shall remain liable hereunder until you are released from flability by every person, firm, corporation or other entity, which is entired to draw or demand payment under the Gredit.
- 8. Decompensable. Unless specified to the contrativin the Application or any amendment to the Credit we agree that you and your correspondents may receive and accept (a) any [tems or documents others we in order issued or purported, issued by an agent, executor, trustee in paneragic, receiver or other representative of the party who is authorized under the Credit to issue sum fieths or other occurrents as complicing with the terms of the Credit and to occurrents which comps with the UCP as defined in Section 17 of this Agreement. The provisions of cause (a) above shill in no way be deemed to preclude the peneticiary of the Credit from issuing and presenting items or documents whoer the terms of the Credit.

We agree to indemnify and hold you harmless from each and every claim, demand, hability, less, cost or expense (including but not limited to liteasonable afformer is fees and legal costs), which may arise or be created by your acceptance of telecommunication instructions in connection with the Credit including but not limited to letenhenic instructions in connection with any waver of discrepances.

- connection with any waiver of discrepancies.

 7. Increased Cast Taxes. If as a result of any law regulation treaty or directive or any change therein or in the interpretation or application thereof or Jour compositive with any reduction directive (whether or not having the force of law, from any court or governmental author), addition instruments it, any reserve premium space deposit sections assessment adults or summarized requirements against your assers performed that oversor thereof the cost to you of issuing or maintaining the Creat is or present in reducing the rate or return on your cast days a consistion modification or application under the Creat to a level to swithat which you crud have achieved but for such impossion modification or application surface the Creat to a level to swithat which you crud have achieved but for such impossion modification or application feating into consideration your process with respect to louding and cable additional or surface actions as which companies to you statement setting from the desired for the calculation thereof such additional amount of amounts as which of mentals evolution such additional cost or resuded rate or the foreign cast able conductive absent manifest error. We further agree to day any applicable levels or other taxes imposed in connection with the Creat content than the imposment as power as a considering that he conductive actions applicable to a transactions under or in connection with the Creat content as a secretary to the responsibility and to the process of the content to the content and a secretary that content are reputations applicable to a transactions under or in connection with the Creat content as a secretary to a force of the content and a secretary that the restrictions of the content and a secretary that the restrictions of the content and a secretary that the restrictions of the content and a secretary that the restrictions and the content and the content and the content and a secretary that the content and the content and the conte
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each of us. We agree to keep the Cottateral free and clear of all other interests and claims and at any time and from time to time, upon your request, ray to derive to the part of the Cottateral framma. Then or in or may hereafter of the into our possession or control to to execute and device 1, you such further security, appreciments intracting statements and other posture for pay, the cost of fixing or recording the same in all poul coffices beceive nearly assumed as such other acts and things required to perfect and maintain a value security interest in the Contaters to secure the payment of the Lusarviers and any exproductions of this spreament in discussion of security interest in the Contaters to secure the payment of the Lusarviers for thing as a financing statement; (c) to furnish to you information concerning or inflamed condition. The Contaters and any obligors on the Contaters as you may reasonably reduces and to it to be use and assign to you adolt one. Contaters indicate the conditions secure, for the Contaters of a value and conditions secure, for the Contaters the conditions secure, for the Cubic retains the conditions secure, for the Cubic retains the conditions secure, for the Cubic retains of a value and conditions secure, for the Contaters (not up the Contaters of the conditions) and presentation of the Contaters (not up the Contaters). The Contaters of the conditions of the conditions of the contaters of the contaters of the conditions of the c

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The security interest cranted by this Section shall continue until such time as an ulabilities have been daid in full and discharged.

B. Raks. We agree that any action or omission by you under or in connection with the Credit or any items occuments or procedy shall unless in breach or good tail to be briging on us and shall not but you under any resulting would, to us live with indemnity you and not you harmless from and against each and every committening but not imited to treaschabit actions, sites and equiviority in which sould us usually subjected only on the world would not unless in a such action or demonstration or to respond to any action to the control of the Arbitration and Agreement unless in prescription of an all in not went to the Arbitration and Agreement unless in prescriptions.

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- 12. Afformer's Faes. We shall pay you for reasonable attorney's fees and legal costs paid or incurred by you in connectio with the Credit or this Agreement or its enforcement including without initiation, all charges and expenses paid or incurred by you in connection with any court process served upon you in respect of the Credit.
- 13. Amendments and/ar Modifications of Credit, if we request you to increase the amount of the Credit extend or rener the Credit or otherwise modify the terms of the Credit we agree that this Agreement shall continue to brid us with respect to an action taken by you or any of your correspondents in accordance with such increase, extension, renewal or other modification.
- modification:

 4. Default Upon kiny default with respect to the L'abrities or performance of any of our obligations uniger the Credit, its Agreement or otherwise (and not withstanding that any of the litems paliable winder the Credit may not men have beef drawn inegotiated or presented and notwithstanding any provisions of this Agreement or any other agreement of instrument evidencing or relating to any of the Liabolities or Collagaria for this divergence and interrup our unability to pay debt as they mature or (ii) if we apply for consent to, or acquiesce in the appointment of a trustee or receiver or in the absence of such application proceeding up on any application proceeding is instituted by or against us and remains for 3 days undistinissed or (vit if any proceeding up only in a substantial portion of our property and is in released within 30 days of service or (vir if in good faith, you do not belies ever can pay the Liabolities immediately due and payabilishood and all action with respect to the Collateral as allowed by applicable faith be deemed a waiver, and no patitie.

 15. Balain and Waiver. No delay in the exercise of your notits or remedies shall be deemed a waiver, and no patitie.

15. Delay and Waiver. No delay in the exercise of your rights or remed as shall be deemed a waiver, and no partial exercise of your rights or remedies shall preclude the further exercise of any right or remedy. No waiver shall be effective unless in writing and then only as to the specific subject waived.

16. Notice. Notices to you shall be addressed to your address noted above, and shall be effective whe included. Notices to us and any other party shall be effective when given or sent by mail, cable, telegraph, tick or other communication addressed to the last address steephone number or communication to the last address. Seephone number or communication the same effect as if they were actually derivered to and received by such person. Notice isnay include any request demand or other communication.

17. Construction and interpretation. The Credit and this Agreement shall be governed by the laws of the State of Illinois including the Unitor's Commercial Code Uniess incommissed with the Billinois including the Unitor's Commercial Code Uniess incommissed with the Billinois in the Credit and this Agreement are subject to the Tetran Or the Uniform Gustoms and Plactice for Documentary Credit (1963 Revision), the International Chamber of Commerce Publication No. 400 (TUCP), as nereby expressly incorporated by reference.

18. Assigns. This Agreement is binding upon the parties hereto and their respective legal representatives, including witho, limitation any executor, trustee or guardian, heirs, successors and assigns.

19. (FOR MULTIPLE APPLICANTS/PARTIES ONLY) Applicant/Designated Party Nomination, live request that the Cred.

be issued with the name of	as Applicant
We further agree that	
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DATED. THIS 28 DAY OF September 1970)

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JOINT APPLICANT (Full here bu	Name and Address) (Party if any ico-signing with the Applicant Contrespondent banks do not sig I complete section. A instead, in both cases Section 15 must also be completed.)
By	(Authorized Signature Title
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(WHERE SPECIME), SENATURES OF THE APPLICANT NAMED ABOVE ARE NOT ON FILE WITH ANZ BANK. THE FOLLOWING SIGNATURE VERIFICATION IS REQUIRED.)

The above signature of an officer ipartner or agent of the Apolicant indicated above conforms to that on five with us an such officer ipartner or agent is to ly authorized to significal Aprement for such Applicant.

	BANK (full Name and Address)
·	
	Authorized Signature Tine (Specimen signature of the signer must be on file with Ati2 Bank.)

SECTION A FOR CORRESPONDENT BANK USE ONLY

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APPENDIX I RE: SECTION 15 GROUNDWATER SAMPLING REPORT

Woodward-Clyde Consultants



REPORT ON GROUNDWATER SAMPLING AT GMB INCORPORATED FACILITY IN VERNON, CALIFORNIA

4-5-90

Prepared for:

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> Project No. 8741996D April 1990



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REPORT ON GROUNDWATER SAMPLING AT GNB INCORPORATED FACILITY IN VERNON, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of groundwater sampling conducted by Woodward-Clyde Consultants at the GNB Incorporated facility in Vernon, California. The sampling program is a continuation of the assessment of groundwater conditions at the site. This assessment is being performed to address specific concerns of the California Regional Water Quality Control Board - Los Angeles Region, particularly the potential for contamination of the first groundwater zone (70 to 90 feet in depth) underlying the site.

2.0 SCOPE OF WORK

The groundwater sampling program consisted of the following elements:

- o Measurement of static groundwater levels in Wells MW-5 through MW-15, PW-1 and PW-2
- o Collection of groundwater samples from Wells MW-5 through MW-15, PW-1 and PW-2
- o Chemical analyses of the collected groundwater samples.

The following sections describe these elements.

2.1 Measurement of Static Groundwater Levels

The elevation of the static water level in Wells MW-5 through MW-15, PW-1 and PW-2 (well locations shown on Figure 2-1) was

measured during the period from 3 April to 5 April 1990, prior to sampling. An electric sounder was used to measure the depth of water below the ground surface to the nearest 0.01 foot. Groundwater elevations were then calculated from these data. These data and results of earlier measurements are presented in Table 2-1. A groundwater contour map is presented on Figure 2-1.

2.2 Collection of Groundwater Samples

Water samples were collected from each of the groundwater monitoring wells (Wells MW-5 through MW-15, PW-1 and PW-2). Each water sample was obtained using a bailer and was placed in containers supplied by West Coast Analytical Service. Duplicate samples were taken from each well, though only one sample was analyzed by the laboratory (the duplicate samples were for emergency and/or confirmation purposes).

Three to five well volumes of water were bailed from each well, where possible, prior to sample collection. Measurements of pH and electrical conductivity of the groundwater in each well were taken until three consecutive samples yielded similar values for these parameters (similar values are those that agree within plus or minus five percent).

The bailer was cleaned between the sampling of each well to minimize the potential for cross contamination. The procedures used for cleaning the bailer are outlined below:

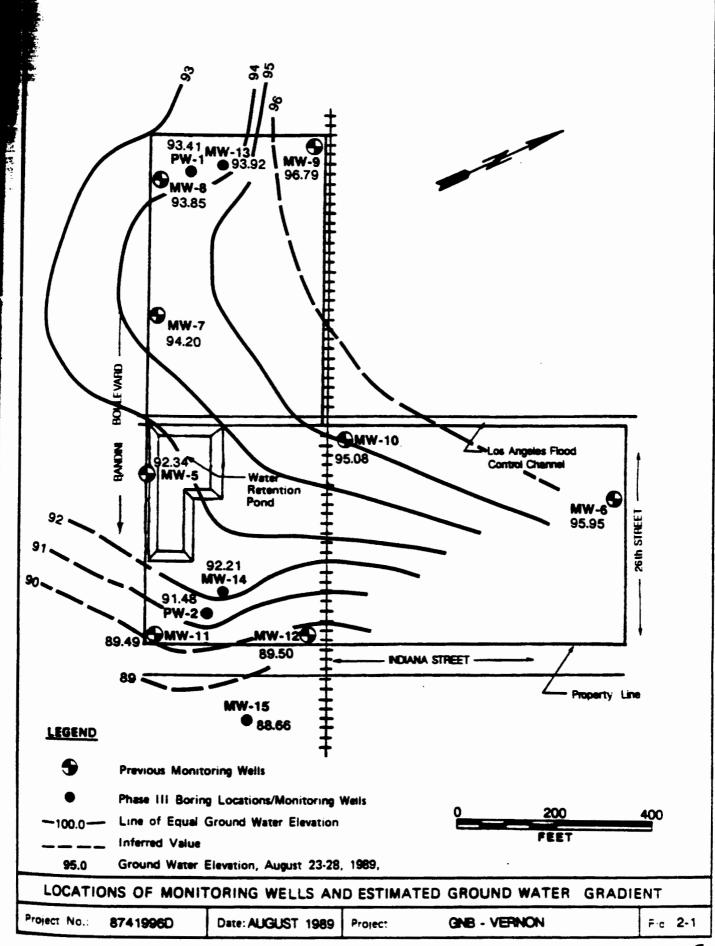
- o Deionized water rinse, brush assisted if necessary, to remove dirt and mud;
- o Deionized water wash with detergent;
- o Rinse with deionized water to remove detergent; and

TABLE 2-1

GROUNDWATER ELEVATION MEASUREMENTS
(in feet, MSL)

	MELL LOCATION												
MEASUREMENT DATE	MV-5	MV-6	MJ-7	MV-8	MV-9	MW-10	MV-11	MW-12	MV-13	MV-14	NW-15	PV-1	PV-2
July 1987	95.59	97.51	97.10	96.68	99.89	97.54	91.13	91.40	96.85	94.49	89.81	95.97	92.31
October 1987	95.27	97.19	96.90	96.34	99.39	97.19	90.78	90.83	96.43	94.37	89.52	95.73	92.71
February 1988	94.88	96.81	96.52	95.94	99.68	96.68	90.04	90.34	96.12	94.10	89.15	N/M*	N/H*
October 1988	93.67	96.18	94.75	94.98	98.48	95.83	88.85	90.84	95.32	92.84	88.49	94.65	91.65
January 1989	93.77	94.34	94.75	94.71	97. <i>T</i> 2	96.40	88.96	92.01	95.22	94.09	88.71	94.41	91.98
May 1989	93.84	96.33	94.55	94.53	97.27	94.94	90.00	92.01	94.97	94.61	89.16	94.13	92.19
August 1989	93.66	96.14	94.57	94.14	97.04	96.38	90.18	91.07	94.59	94.28	89.08	93.79	92.03
December 1989	93.34	94.96	94.55	94.09	97.01	95.65	89.96	90.05	94.34	93.84	88.93	93.61	91.78
April 1990	92.34	95.95	94.20	93.85	96.79	95.08	89.49	89.50	93.92	92.21	88.66	93.41	91.48

^{*} N/M = not measured



o Dry with a paper towel.

2.3 Chemical Analyses of Collected Samples

Groundwater samples were analyzed by West Coast Analytical Service, Santa Fe Springs (a California Department of Health Services approved hazardous waste analytical laboratory). These samples were analyzed by the following methods:

- o pH (EPA Method 150.1)
- o Sulfate, nitrate, and chloride (EPA Method 300.6/IC)
- o Total concentrations of zinc, lead, aluminum, cadmium, arsenic, and antimony (inductively coupled plasma/mass spectrometry)
- o Volatile organic compounds (EPA Method 624).

Results of the analyses and previous results are presented in Table 2-2. Copies of the analytical laboratory reports are contained in Appendix A.

3.0 RESULTS AND CONCLUSIONS

Results of groundwater elevation measurements in April 1990 for Wells MW-5 through MW-15, PW-1 and PW-2 (see Table 2-1) indicate that the general lowering of the groundwater table, reported in previous reports since 1987, continues. The change in groundwater elevation has not resulted in a significant change in the groundwater flow direction. Water in the first groundwater zone beneath the site appears to flow in a southeasterly direction.

In contrast to the general lowering of groundwater elevations at the site, water levels at Wells MW-11, MW-12, MW-14, MW-15, and PW-2 have declined at a slower rate since July 1987. This

phenomenon suggests that groundwater recharging from an unknown source may be occurring in the southeast quadrant of the site.

Relatively elevated concentrations of trichloroethene (approximately 1,900 and 5,200 micrograms per liter) are still present in the groundwater near Wells MW-11 and MW-15. A lower concentration of trichloroethene (360 micrograms per liter), though still above the drinking water action level of five micrograms per liter (μ g/l), exists at Well MW-14. The trichloroethene concentration at Well PW-2, which was 1,400 μ g/l in January 1989, decreased to the 100 to 200 μ g/l range during the middle to later parts of 1989, and continues to remain in this range.

Concentrations of trichloroethene and benzene, which exceed the drinking water action levels of 5 and 0.7 μ g/l, respectively, are still detected in Wells MW-8 and MW-13. A trace concentration of 1,2-dichloroethane, which was first detected in Well MW-8 in December 1989, was also detected during the present groundwater sampling round.

Tetrachloroethene continues to be detected in groundwater samples from upgradient Well MW-6 (6 μ g/l). This pattern suggests that tetrachloroethene may be originating from offsite sources.

Lead concentrations in the groundwater samples from Wells MW-5 through MW-15, PW-1, and PW-2 ranged from non-detection (less than 0.005 ppm) to 0.26 ppm. The concentration of lead in the groundwater near Well MW-5, which had risen to 0.61 ppm during August 1989 from 0.18 ppm in May 1989, had decreased to 0.26 ppm in December 1989.

Aluminum concentrations in groundwater samples from Wells MW-5 through MW-15, PW-1, and PW-2 during the April 1990 sampling round ranged from non-detection (less than 0.8 ppm) to 260 ppm. The highest concentrations of aluminum in groundwater were detected in Wells MW-8, MW-13, and PW-1, all located along the western perimeter of the site.

To confirm the concentrations of lead detected in groundwater samples from Wells MW-6 and MW-14 and aluminum in Well MW-6, these wells were resampled on 1 May 1990. Sampling protocols used were those described in Section 2.2. Results of chemical analyses, shown in Table 2-2 (chain-of-custody form and analytical laboratory report are presented in Appendix A), indicate that lead and aluminum concentrations were 0.017 ppm and non-detection (less than 0.4 ppm), respectively, for Well MW-6, versus 0.44 ppm and 160 ppm as detected in groundwater samples collected in April 1990. Additionally, the lead concentration for Well MW-14 was 0.74 ppm, versus 0.64 ppm as detected in the groundwater sample collected in April 1990.

Low pH values (between 3.0 and 4.0) remain in the groundwater near Wells MW-8, MW-13, and PW-1. The acidity of the groundwater in these areas does not appear to have resulted in the increased solubilization of metals into the groundwater, except possibly aluminum.

The pH of the groundwater at Well MW-9 continues to remain moderately acidic. The groundwater has changed from essentially neutral (pH of 6.5) in April 1987 to moderately acidic (pH of 4.2 to 4.9) in 1989 and early 1990. Because Well MW-9 is an upgradient well, the data continue to suggest that the groundwater flowing onto the site in the area of Well MW-9 may be contaminated with acidic materials.

TABLE 2-2
WELL LOCATION/DATE OF SAMPLING

						WELL MW-5		Make the sea one of			
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88(1) 10/88	1/89(2)	4/89	5/89	8/89	12/89	4/90
pH	6.4	6.8	6.0	6.0		5.8	NA	5.8	6.0	5.8	6.4
zinc (ppm)	121	110	222	300	211	280	NA	340	490	420	280
araenic (ppm)	ND(0.03) ⁽³⁾	0.066	0.06	0.008	0.005	0.0082	NA(4)	0.2	0.0062	0.025	MD(0.025)
cadmium (ppm)	0.28	0.26	0.47	0.31	0.33	0.31	NA	0.42	0.55	0.049	0.42
antimony (ppm)	ND(0.01)	MD(0.02)	MD(0.001)	0.002	0.007	0.013	NA	MD(0.004)	0.008	0.009	0.006
lead (ppm)	0.175	0.63	0.045	0.052	0.043	2.5	0.6	0.18	0.61	0.26	0.26
aluminum (ppm)	34	23	1.4	2.6	5.0	3.2	NA	ND(4)	ND(2)	MD(0.7)	3.0
chloride (ppm)	440	500	680	620	640	690	NA	970	1400	1300	1000
nitrate (ppm)	240	••	260	240	56	20	NA	230	260	260	260
sulfate (ppm)	2470	2440	3200	2400	2940	2300	NA	2200	2200	2700	2500
trichloroethene (ug/l)	6	5	3	3	3	6	NA	2	2	ND(1)	ND(1)
toluene (ug/l)	ND(1)	ND(1)	3	MD(1)	ND(1)	2	NA	ND(1)	ND(1)	ND(1)	ND(1)
benzene (ug/l)	2	3	2	MD(1)	MD(1)	ND(1)	NA	ND(1)	ND(1)	ND(1)	ND(1)
xylene (ug/l)	13 .	3	10	4	MD(1)	11	NA	1	ND(1)	ND(1)	ND(1)
tetrachloroethene (ug/l)	ND(1)	ND(1)	MD(1)	MD(1)	MD(1)	ND(1)	MA	ND(1)	ND(1)	ND(1)	ND(1)
1,2-dichloroethane (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)	NA	ND(1)	ND(1)	ND(1)	ND(1)

NOTES:

^{1.} Chemical analyses of groundwater samples from Well HW-5 during October 1988 performed by West Coast Analytical Services (results shown in first column) and Resource Consultants (results shown in second column).

^{2.} Groundwater sample from Well MW-5 collected during April 1989 analyzed for total lead only.

^{3.} ND() indicates not detected at concentration listed in parenthesis.

^{4.} NA indicates not analyzed.

TABLE 2-2 (continued) WELL LOCATION/DATE OF SAMPLING

	WELL MW-6										
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90	5/90	
pH	7.4	7.7	7.2	6.9	7.0	7.0	7.2	7.2	7.5	NA	
zinc (ppm)	0.23	0.14	ND(0.3)	0.011	ND(0.09)	ND(0.7)	ND(0.1)	0.2	0.49	KA	
arsenic (ppm)	ND(0.1)	0.044	0.0213	MD(0.009)	0.005	MD(0.03)	ND(0.001)	0.017	0.04	KA	
cadnium (ppm)	ND(0.01)	0.006	MD(0.002)	0.0006	MD(0.001)	MD(0.005)	MD(0.004)	0.014	0.003	KA	
entimony (ppm)	ND(0.005)	MD(0.02)	MD(0.003)	0.0007	0.0012	ND(0.004)	ND(0.002)	MD(0.007)	ND(0.004)	KA	
lead (ppm)	0.163	0.33	MD(0.009)	0.018	0.012	ND(0.02)	0.01	ND(0.005)	0.44	0.017	
aluminum (ppm)	17	17	ND(0.4)	0.200	0.4	ND(4)	MD(2)	ND(0.7)	160	ND (0.4)	
chloride (ppm)	430	400	510	930	800	800	1000	910	860	NA	
nitrate (ppm)	70	•••	97	83	79	77	99	88	84	NA	
sulfate (ppm)	130	160	160	130	120	120	140	130	130	MA	
trichloroethene (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	NA	
toluene (ug/l)	ND(1)	MD(1)	ND(1)	NA							
benzene (ug/l)	ND(1)	MD(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	MA	
xylene (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)	MD(1)	MA	
tetrachloroethene (ug/l)	11	10	13	9	5	7	9	6	6	KA	
1,2-dichloroethane (ug/l)	HD(1)	ND(1)	HD(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	KA	

TABLE 2-2 (continued) WELL LOCATION/DATE OF SAMPLING

					WELL MW-7				
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90
рH	6.6	7.1	6.8	6.1	6.4	N/A	6.4	5.9	6.4
zinc (ppm)	0.75	0.64	MD(0.3)	2	0.4	N/A	0.3	2.9	2.5
arsenic (ppm)	ND(0.03)	0.06	0.133	MD(0.01)	0.011	N/A	MD(0.001)	MD(0.01)	ND(0.064)
cadmium (ppm)	0.11	0.09	0.037	0.036	0.027	N/A	0.041	0.056	0.038
antimony (ppm)	ND(0.01)	ND(0.02)	ND(0.003)	ND(0.0009)	ND(0.001)	N/A	0.004	ND(0.007)	0.0029
lead (ppm)	0.029	0.54	ND(0.009)	0.052	0.13	N/A	0.18	0.15	0.13
aluminum (ppm)	23	3.1	ND(0.4)	1	0.2	N/A	ND(2)	2.2	1.2
chloride (ppm)	3230	2430	205	1100	1500	N/A	1700	1400	1500
nitrate (ppm)	110		11	140	140	N/A	100	120	120
sulfate (ppm)	540	680	63	1500	910	N/A	1100	1100	1100
trichloroethene (ug/l)	5	ND(1)	ND(1)	ND(1)	ND(1)	N/A	MD(1)	ND(1)	ND(1)
toluene (ug/l)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)	N/A	MD(1)	ND(1)	MD(1)
benzene (ug/l)	ND(1)	MD(1)	ND(1)	ND(1)	MD(1)	N/A	MD(1)	ND(1)	MD(1)
xylene (ug/l)	ND(1)	ND(1)	ND(1)	MD(1)	MD(1)	N/A	ND(1)	ND(1)	MD(1)
tetrachloroethene (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	N/A	ND(1)	ND(1)	MD(1)
1,2-dichloroethane (ug/l)	MD(1)	MD(1)	ND(1)	ND(1)	ND(1)	N/A	MD(1)	MD(1)	ND(1)

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

					WELL NW-8				
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90
pH	3.0	3.2	3.6	3.5	3.6	3.4	3.6	3.4	3.4
zinc (ppm)	40	43	33.1	33	32	30	36	33	30
arsenic (ppm)	MD(0.03)	ND(0.008)	0.062	ND(0.005)	0.012	ND(0.02)	0.0092	ND(0.04)	0.008
cadmium (ppm)	0.25	0.26	0.237	0.24	0.12	0.23	0.19	0.22	0.23
antimony (ppm)	MD(0.04)	0.01	ND(0.003)	0.0026	0.0015	ND(0.005)	ND(0.002)	ND(0.005)	ND(0.004)
lead (ppm)	0.099	0.12	ND(0.009)	0.15	0.2	0.13	0.036	0.016	0.026
aluminum (ppm)	195	170	225	161	140	160	130	200	180
chloride (ppm)	790	880	105	910	840	850	780	830	890
nitrate (ppm)	MD(10)	ND(5)	ND(0.1)	MD(0.1)	ND(1)	ND(10)	ND(10)	MD(10)	ND(10)
sulfate (ppm)	4890	5340	710	5400	5000	5600	5200	5200	6300
trichloroethene (ug/l)	31	21	17	10	40	24	30	24	31
toluene (ug/l)	17	13	11	17	23	14	22	14	15
benzene (ug/l)	18	11	11	7	25	14	20	14	14
xylene (ug/l)	44	31	13	26	120	40	51	41	130
tetrachloroethene (ug/l)	4	1	1	ND(1)	2	ND(1)	ND(1)	ND(1)	2
1,2-dichloroethane (ug/l)	4	ND(1)	3	1	MD(1)	ND(1)	ND(1)	2	3

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

	WELL NU-9											
CHENICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90			
PH	6.5	6.0	5.2	5.0	4.2	4.5	4.9	4.8	4.9			
zinc (ppm)	7.6	12	15.8	22	30	34	30	25	30			
arsenic (ppm)	MD(0.03)	ND(0.008)	0.0104	0.002	0.0026	ND(0.001)	0.0091	ND(0.04)	0.006			
cadmium (ppm)	0.03	0.043	0.067	0.066	0.07	0.11	0.12	0.07	0.11			
antimony (ppm)	MD(0.04)	MD(0.01)	MD(0.003)	MD(0.003)	MD(0.001)	MD(0.005)	ND(0.01)	ND(0.005)	ND(0.0005)			
teed (ppm)	ND(0.009)	0.076	ND(0.009)	0.011	ND(0.007)	0.07	ND(0.008)	ND(0.007)	0.0059			
atuminum (ppm)	1.4	80	27	10	35	23	15	17	13			
chloride (ppm)	120	1080	120	80	72	87	93	92	130			
nitrete (ppm)	MD(10)	ND(50)	ND(0.1)	ND(0.1)	8.9	ND(10)	ND(10)	ND(10)	ND(10)			
sulfata (ppm)	960	1180	1600	1400	1300	1900	2100	1900	2300			
trichloroethene (ug/l)	1	MD(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	4			
toluene (ug/l)	1	MD(1)	ND(1)	10	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)			
benzene (ug/l)	ND(1)											
xylene (ug/l)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)			
tetrachloroethene (ug/l)	2	MD(1)	ND(1)	MD(1)	ND(1)	ND(1)	1	ND(1)	5			
1,2-dichloroethane (ug/l)	7	ND(1)	ND(1)	1	ND(1)	ND(1)	2	ND(1)	3			

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

	WELL MW-10											
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90			
pH	6.6	7.1	6.7	6.6	6.5	6.5	6.4	6.9	6.7			
zinc (ppm)	ND(0.1)	0.12	0.08	0.022	ND(0.09)	ND(0.7)	0.19	ND(0.07)	0.012			
arsenic (ppm)	ND(0.03)	0.02	MD(0.006)	0.0036	ND(0.001)	MD(0.004)	ND(0.001)	MD(0.003)	ND(0.007)			
cadmium (ppm)	MD(0.01)	0.005	0.004	0.0046	0.004	ND(0.005)	0.009	ND(0.005)	0.0023			
antimony (ppm)	ND(0.04)	MD(0.02)	ND(0.001)	0.0012	MD(0.001)	ND(0.004)	ND(0.01)	MD(0.001)	ND(0.0005)			
lead (ppm)	0.009	0.43	0.024	0.102	0.077	ND(0.02)	0.036	0.007	0.0083			
aluminum (ppm)	3.7	8.5	4.5	1.6	NO(0.2)	ND(4)	ND(0.8)	1.3	1.7			
chloride (ppm)	130	150	180	180	190	160	160	130	250			
nitrate (ppm)	40	••	22	40	48	57	45	100	110			
sulfate (ppm)	2280	1770	1300	1300	2100	2000	2300	3300	1800			
trichloroethene (ug/l)	4	2	2	4	ND(1)	ND(1)	ND(1)	ND(1)	2			
toluene (ug/l)	2	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)			
benzene (ug/l)	ND(1)	ND(1)	HD(1)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)			
xylene (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)	ND(1)	ND(1)			
tetrachloroethene (ug/l)	4	3	3	2	ND(1)	ND(1)	ND(1)	MD(1)	1			
1,2-dichloroethane (ug/l)	MD(1)	MD(1)	2	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)			

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

	WELL MW-11									
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90	
рH	7.1	7.5	7.4	7.1	7.0	6.8	6.9	7.2	7.8	
zinc (ppm)	0.09	0.1	ND(0.1)	0.007	ND(0.09)	ND(0.7)	WD(0.06)	ND(0.07)	0.13	
arsenic (ppm)	MD(0.03)	0.066	0.05	0.004	0.0018	0.05	0.0019	0.004	ND(0.004)	
cadmium (ppm)	MD(0.02)	0.005	0.002	0.0014	ND(0.002)	MD(0.005)	ND(0.001)	ND(0.005)	MD(0.002)	
antimony (ppm)	MD(0.01)	MD(0.02)	MD(0.001)	0.0006	0.0012	ND(0.004)	ND(0.01)	MD(0.001)	MD(0.004)	
lead (ppm)	0.029	2.3	0.036	0.018	0.077	0.05	0.12	0.081	0.023	
eluminum (ppm)	25	50	0.3	0.630	0.2	ND(4)	ND(0.8)	ND(0.6)	ND(0.8)	
chloride (ppm)	470	420	480	500	430	330	400	440	400	
nitrate (ppm)	40		39	41	31	28	40	39	38	
sulfate (ppm)	1560	1410	1700	1400	1300	1100	1600	1700	1500	
trichloroethene (ug/l)	2300	2400	2200	1200	1700	2700	1700	1800	1900	
toluene (ug/l)	76	MD(1)	MD(10)	ND(5)	ND(10)	ND(20)	ND(10)	MD(10)	MD(20)	
benzene (ug/l)	ND(10)	MD(1)	MD(10)	ND(5)	ND(10)	ND(20)	ND(10)	ND(10)	ND(20)	
xylene (ug/l)	ND(10)	MD(1)	MD(10)	ND(5)	ND(10)	ND(20)	ND(10)	ND(10)	ND(20)	
tetrachloroethene (ug/l)	ND(10)	2	MD(10)	ND(5)	ND(10)	MD(20)	ND(10)	ND(10)	ND(20)	
1,2-dichloroethene (ug/l)	ND(10)	MD(1)	ND(10)	ND(5)	ND(10)	ND(20)	ND(10)	ND(10)	ND(20)	

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

					WELL MW-1	2			
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90
pH	6.8	6.8	6.6	6.2	6.4	6.6	6.4	6.5	6.4
zinc (ppm)	ND(0.1)	0.3	0.66	0.048	ND(0.09)	ND(0.7)	ND(0.06)	ND(0.07)	0.013
arsenic (ppm)	ND(0.03)	0.061	0.022	ND(0.01)	0.0018	0.06	ND(0.001)	ND(0.003)	ND(0.008)
cadnium (ppm)	ND(0.01)	0.001	0.005	0.0046	MD(0.001)	ND(0.005)	ND(0.001)	ND(0.005)	0.0026
antimony (ppm)	ND(0.04)	0.05	0.002	0.0015	ND(0.001)	ND(0.004)	ND(0.01)	ND(0.001)	MD(0.0005)
lead (ppm)	ND(0.009)	0.11	0.24	0.039	0.056	ND(0.02)	ND(0.008)	ND(0.005)	0.0036
aluminum (ppm)	1.2	38	. 240	3	ND(0.2)	ND(4)	ND(0.8)	ND(0.6)	0.3
chloride (ppm)	270	290	290	240	240	170	210	260	250
nitrate (ppm)	90		125	91	82	67	85	110	110
sulfate (ppm)	2520	2890	3700	2600	1900	1800	2300	2800	2400
trichloroethene (ug/l)	8	9	5	3	ND(1)	1	3	2	2
toluene (ug/l)	1	ND(1)	ND(1)	1	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
benzene (ug/l)	ND(1)	ND(1)	ND(1)	MD(1)	ND(1)	MD(1)	ND(1)	ND(1)	ND(1)
xylene (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
tetrachloroethene (ug/l)	2	1	2	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	1
1,2-dichloroethane (ug/l)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

					WELL MW-13				
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90
pH	••	3.7	3.6	3.7	3.6	3.5	3.3	3.2	3.3
zinc (ppm)		36	36.9	40	41	43	34	38	37
arsenic (ppm)	••	0.064	0.0251	0.012	0.0098	MD(0.01)	0.019	ND(0.04)	ND(0.009)
cadmium (ppm)	••	0.26	0.367	0.35	0.31	0.28	0.29	0.27	0.23
antimony (ppm)	••	ND(0.02)	ND(0.003)	0.029	0.0051	ND(0.005)	ND(0.01)	ND(0.005)	ND(0.004)
lead (ppm)		0.87	0.191	2.5	0.47	MD(0.02)	0.047	0.034	0.021
aluminum (ppm)	••	120	375	190	230	180	180	250	180
chloride (ppm)	••	510	600	690	590	580	590	580	610
nitrate (ppm)			ND(0.1)	ND(0.1)	ND(1)	ND(10)	ND(10)	MD(10)	ND(10)
sulfate (ppm)		6260	7900	5300	5600	4900	4600	4800	4700
trichloroethene (ug/l)		27	38	24	36	31	28	27	23
toluene (ug/l)		13	23	11	17	11	10	8	7
benzene (ug/l)		9	15	9	15	11	9	11	10
xylene (ug/l)		23	20	25	58	23	24	19	21
tetrachloroethene (ug/l)	••	3	2	ND(1)	1	ND(1)	MD(1)	MD(1)	ND(1)
1,2-dichloroethane (ug/l)	••	3	3	2	ND(1)	ND(1)	ND(1)	ND(1)	2

TABLE 2-2 (continued) WELL LOCATION/DATE OF SAMPLING

	WELL MW-14											
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90	5/90		
pH		6.8	4.4	4.6	4.4	5.4	5.5	6.0	5.9	NA		
zinc (ppm)		11	17	16	12	2.8	2.3	2.1	1.2	NA		
arsenic (ppm)	••	0.053	ND(0.02)	0.007	0.0081	0.15	0.0051	ND(0.003)	MD(0.013)	NA		
cadmium (ppm)	••	0.045	0.12	0.1	0.049	0.043	0.039	0.029	0.024	NA		
antimony (ppm)	•-	ND(0.02)	0.002	0.0006	0.01	ND(0.004)	MD(0.01)	ND(0.001)	0.039	NA		
tead (ppm)		0.08	0.086	0.12	0.49	0.07	ND(0.008)	0.12	0.64	0.74		
aluminum (ppm)		130	170	110	140	16	6.1	6.1	2.9	NA		
chtoride (ppm)	••	470	550	570	470	330	380	430	390	NA		
nitrete (ppm)	••	••	26	39	35	23	30	26	25	NA		
sulfate (ppm)	••	3070	7500 '	6000	6300	2900	3000	4300	3600	MA		
trichloroethene (ug/l)	••	270	200	150	120	280	120	280	360	NA		
toluene (ug/l)	••	ND(1)	ND(1)	ND(1)	MD(1)	ND(2)	ND(1)	MD(1)	ND(2)	NA		
benzene (ug/l)	••	ND(1)	ND(1)	ND(1)	MD(1)	ND(2)	MD(1)	MD(1)	ND(2)	NA		
xytene (ug/t)		ND(1)	ND(1)	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	MD(2)	NA		
tetrachloroethene (ug/l)	••	ND(1)	ND(1)	MD(1)	MD(1)	ND(2)	ND(1)	MD(1)	ND(2)	MA		
1,2-dichloroethene (ug/l)	••	ND(1)	ND(1)	ND(1)	MD(1)	ND(2)	ND(1)	ND(1)	ND(2)	NA		

TABLE 2-2 (continued) WELL LOCATION/DATE OF SAMPLING

					WELL MW-15				
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90
рH	••	7.4	7.0	6.7	6.7	6.6	6.5	6.9	7.5
zinc (ppm)		0.22	ND(0.1)	0.061	ND(0.09)	ND(0.7)	0.42	0.68	1.1
arsenic (ppm)	••	0.055	0.06	0.007	ND(0.002)	ND(0.04)	ND(0.001)	ND(0.003)	MD(0.007)
cadmium (ppm)		0.003	0.002	0.0025	0.002	ND(0.005)	0.003	0.006	MD(0.002)
antimony (ppm)	••	MD(0.02)	ND(0.001)	0.0013	0.0013	ND(0.004)	MD(0.01)	ND(0.001)	MD(0.004)
lead (ppm)		MD(0.02)	ND(0.007)	0.049	0.03	ND(0.02)	ND(0.008)	MD(0.005)	MD(0.006)
aluminum (ppm)	••	1.6	0.8	1.6	0.2	ND(4)	ND(0.7)	MD(0.6)	ND(0.8)
chloride (ppm)	••	510	640	570	440	370	370	350	310
nitrate (ppm)			40	50	51	67	84	90	86
sulfate (ppm)	••	2790	3600	2700	2300	2100	2300	2000	1800
trichloroethene (ug/l)	••	•-30	2100	1800	1900	2400	2400	2800	5200
toluene (ug/l)	••	ND(1)	ND(10)	ND(5)	ND(10)	ND(20)	ND(20)	ND(30)	ND(30)
benzene (ug/l)		MD(1)	MD(10)	ND(5)	ND(10)	ND(20)	ND(20)	ND(30)	ND(30)
xylene (ug/l)	. 	MD(1)	ND(10)	ND(5)	ND(10)	ND(20)	ND(20)	MD(30)	ND(30)
tetrachloroethene (ug/l)		2	ND(10)	ND(5)	ND(10)	ND(20)	ND(20)	ND(30)	ND(30)
1,2-dichloroethane (ug/l)	••	MD(1)	ND(10)	MD(5)	ND(10)	WD(20)	ND(20)	ND(30)	ND(30)

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

	WELL PW-1										
CHEMICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90		
pH		3.7		3.2	3.3	3.3	3.2	3.4	3.6		
zinc (ppm)	••	34		30	34	28	32	36	36		
ersenic (ppm)		0.061	••	0.014	0.011	ND(0.004)	0.017	ND(0.04)	0.026		
cadmium (ppm)		0.26	••	0.25	0.26	0.31	0.25	0.27	0.29		
antimony (ppm)	••	ND(0.02)	••	0.001	ND(0.001)	MD(0.005)	ND(0.01)	MD(0.005)	ND(0.004)		
lead (ppm)		0.14	••	0.049	ND(0.007)	0.05	MD(0.008)	ND(0.007)	0.019		
etuminum (ppm)	••	240	••	120	220	160	200	200	260		
chtoride (ppm)	••	689		950	690	740	770	750	690		
nitrate (ppm)		ND(5)		MD(0.1)	ND(1)	ND(10)	ND(10)	ND(10)	ND(10)		
sulfate (ppm)	••	8620	••	4800	7200	4900	5900	6800	8000		
trichloroethene (ug/l)	••	35		52	42	29	36	34	27		
toluene (ug/l)	••	32	••	33	42	21	29	26	24		
benzene (ug/l)		18		23	27	17	20	18	15		
xylene (ug/l)		64		100	150	53	65	65	53		
tetrachloroethene (ug/l)		3		ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)		
1,2-dichloroethane (ug/l)	- 9	4	••	2	ND(1)	ND(1)	ND(1)	ND(1)	3		

TABLE 2-2 (continued)
WELL LOCATION/DATE OF SAMPLING

	WELL PV-2.									RELEVANT DRINKING
CHENICAL PARAMETER	4/87	7/87	2/88	10/88	1/89	5/89	8/89	12/89	4/90	WATER STANDARD
pM ,	•••	6.5	••	6.2	6.3	6.4	6.4	7.1	7.5	
zinc (ppm)	••	1.6		4.5	5.1	1.8	0.83	1.6	37	5(1)
areenic (ppm)	••	0.025	••	0.006	0.0052	0.03	ND(0.001)	0.009	MD(0.009)	0.05(24)
cadmium (ppm)	••	0.025	••	0.072	0.076	0.035	0.019	0.034	0.035	0.01(24)
entimony (ppm)	••	MD(0.02)	••	0.0014	0.0022	ND(0.004)	MD(0.01)	0.002	MD(0.004)	٠,
lead (ppm)		0.2	••	0.027	0.038	MD(0.02)	ND(0.008)	0.013	0.021	0.05(2a)
aluminum (ppm)		MD(0.06)	••	4.4	4.3	ND(4)	MD(0.7)	MD(0.6)	ND(0.8)	1(24)
chioride (ppm)		508	••	550	480	410	440	520	520	250(1)
nitrate (pps)		MD(5)		57	65	48	56	54	45	10(2a)
sulfate (ppm)		3640	••	5800	6100	4100	4300	5000	5200	250(1)
trichtoroethene (ug/l)		300	••	170	1400	170	100	170	190	5(2b)
toluene (ug/l)		MD(1)	••	MD(1)	MD(10)	ND(1)	MD(1)	MD(1)	MD(2)	100(SP)
benzene (ug/l)		MD(1)	••	MD(1)	MD(10)	ND(1)	MD(1)	MD(1)	MD(2)	0.7(2b)
жylene (ug/l)	••	MD(1)	••	MD(1)	ND(10)	ND(1)	MD(1)	MD(1)	MD(2)	620(2b)
tetrachioroethene (ug/i)	••	1	••	MD(1)	MD(10)	MD(1)	MD(1)	1	MD(2)	4(SP)
1,2-dichtoroethane (ug/t)		ND(1)	••	MD(1)	MD(10)	ND(1)	ND(1)	MD(1)	MD(2)	1(2b)

NOTES:

- 1. Secondary drinking water regulation not enforceable.
- 2. Relevant drinking water standards include EPA Maximum Concentration Levels (a) and California Department of Health Services Action Levels (b).

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Woodward-Clyde Consultants

5 July 1990 Project No. 8741996D 1/25/90

cc: K. Clark - dos angeles smelter a. Laram

O. Dent c/o Seyforth, Chicago D. Marshall clo Seyforth, Low angeles Enclosed is the corrected

Mr. A. J. Hipp Vice President and General Counsel GNB Incorporated P.O. Box 64100 St. Paul, Minnesota 55164

table to replace the one in your copy of the april 1990 report. That table before

SUBJECT:

REVISED REPORT ON GROUNDWATER SAMPLING AT GNB text beginning incorporated pacifity in version, california on page 4)

(April 1990) Garl Landis

Dear Mr. Hipp:

612/681-5418

Enclosed please find three copies of the subject report. The report includes the corrected entry in Table 2-2 for the cadmium concentration in groundwater sampled from Well PW-2.

Yours truly,

WOODWARD-CLYDE CONSULTANTS

Stephen W. Mulligan Senior Project Engineer

SWM/ew

Enclosures

Hipp.ew

Consulting Engineers, Geologists and Environmental Scientists